

Reliability Analysis Center

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ELECTROSTATIC DISCHARGE (ESD) SUSCEPTIBILITY OF ELECTRONIC DEVICES

Spring 1983

Prepared by:

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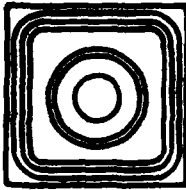
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PREFACE

The purpose of this document is to make available electrostatic discharge susceptibility test and classification data which has been accomplished over the past few years. It is the belief of RAC that this data is much needed by industry and government equipment designers to enable them to assess their equipments' vulnerability to the ESD threat.

This document was prepared as part of the Reliability Analysis Center's Technical Reliability Study series which provides the user community with new and needed information in the field of electronic device reliability.

Credit must be given to NASA (Code DR) and Naval Sea Systems Command (Code 06C31) for their continued support in identifying and funding ESD research studies, ultimately making documents such as this possible.

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INTRODUCTION

When trying to assess the real impact on reliability caused by electrostatic discharge (ESD), system analysts often wonder to what extent this failure mechanism manifests itself on the ultimate system reliability. This is very difficult to ascertain due to the nature of the failure mechanisms involved. Actual failures due to ESD are not easily identified and verified without costly and time-consuming failure analysis. Furthermore, there are many variables which play important roles in this potential danger to components and systems which are not fully understood. Potential ESD damage is indeed a reliability constraint and should be treated accordingly. It does, however, differ from traditional reliability limiting factors. For example, thermal stress in microcircuits is fairly well understood, i.e., the reliability impact on a component can be easily determined by knowing the thermal environment in which the component is to operate. However, ESD is not that predictable. It is considered a random occurrence and hence makes it difficult to correlate to physical parameters. In order to assess the likelihood of ESD damage to a component it is necessary to evaluate two relevant factors: first, what is the frequency and level of ESD pulses to which the part may be subjected during production, storage and use, and, second, what is the ESD susceptibility of the part, i.e., pulse voltage levels above which the part can be damaged?

This document is intended to make available to the reliability engineering community ESD susceptibility data which has already been documented. This will help the designer obtain some idea of actually how sensitive the components are which he is designing into his equipment. It will assist him in selecting those components and those component vendors whose parts are less susceptible to ESD. It will also help identify areas where additional board level protective circuitry may be necessary. Knowing the part's ESD susceptibility will allow him to make intelligent tradeoffs between different design approaches

relative to the required circuit functions and parameters. He will also be better able to evaluate total circuit costs and performance vs ultimate circuit ESD susceptibility. An additional benefit will be to help identify those production areas where additional controls are needed to combat the potential failures caused by ESD and to set up a continuing ESD control program.

SECTION 1

Device Susceptibility and Susceptibility Testing

INTRODUCTION

The intent of the following section is not to present an exhaustive treatment on the subject of electronic devices susceptibility to electrostatic discharge but rather to present the reader with an overview of various phenomena of ESD susceptibility and how it relates to the data and the limitations of the data which is contained in this book.

Various failure mechanisms normally associated with electrical overstress (EOS) and electrostatic discharge will be presented along with a discussion of ESD-induced latent failures, which has recently become an area of major concern. Also, various discharge models will be presented which simulate different situations in which a device can be damaged by ESD and how testing using these simulation techniques can be carried out.

FAILURE MECHANISMS

Various EOS/ESD-activated failure mechanisms can occur within microelectronic and semiconductor devices. These failure mechanisms include:

- (a) Dielectric Breakdown
- (b) Thermal Secondary Breakdown
- (c) Metallization Melt
- (d) Gaseous Arc Breakdown
- (e) Surface Breakdown
- (f) Bulk Breakdown

Some of these failure mechanisms are voltage-dependent and others are power or energy-dependent. The first four mechanisms are the predominant ones associated with ESD and usually are associated with

specific component types and constituent elements within these components. Therefore, we will examine these four more closely.

Dielectric Breakdown

Dielectric breakdown occurs in MOS components when the voltage across the oxide exceeds its dielectric breakdown strength. The single most important factor in this breakdown is the oxide thickness: the thinner the oxide the more susceptible the device is to damage. Permanent damage results when the oxide strength is exceeded. This results in a punch-through and leaves a low resistance short. The actual failure is usually precipitated by a pin hole or other weakness in the oxide where the actual punch-through takes place.

This failure mechanism can also manifest itself in those bipolar monolithic integrated circuits having metallization runs over active semiconductor regions separated by a field oxide. This field oxide creates a parasitic MOS transistor in the bipolar device and it can also be shorted as previously described.

For very short duration pulses (i.e., those with very small source resistance and/or capacitance) some lattice damage could occur in the dielectric, resulting in a lower breakdown threshold voltage for subsequent pulses.

This failure mechanism is voltage-dependent. The energy required to cause the plasma arc (or punch-through) is relatively small, but the voltage must be high enough to precipitate the initial breakdown.

Thermal Secondary Breakdown or Junction Burnout

Bipolar junctions are prone to damage via junction burnout. The semiconductor material in a PN junction normally has a positive

temperature coefficient at relatively low temperatures (i.e., the resistance increases as the temperature increases). As a pulse is applied (in the reversed bias direction) the junction dissipates heat in the very narrow depletion region of the junction and thus its temperature increases rapidly. (A junction in the forward biased direction is normally at least an order of magnitude less susceptible due to the fact that more energy can be dissipated in the bulk material.) If enough energy is applied, the temperature of the junction will reach a point at which the temperature coefficient of the silicon becomes negative (i.e., an increase in temperature results in a decrease in resistance) and in turn hot spots are formed since the entire area of the junction is not perfectly uniform. This is thermal second breakdown, a thermal runaway condition which eventually results in junction melting when the melting temperature of silicon (1415°C) is reached in the localized area. If additional energy is available after the initiation of the silicon melting, the hot spot can grow into a filament short. The longer the pulse the wider the filament short will be. After the occurrence of the transient, the silicon resolidifies. If a relatively short pulse is applied a hot spot can form but it does not grow completely across the junction. This condition may not manifest itself immediately as a junction short but may appear at a later time as a result of electromigration.

JFET and Schottky devices are particularly susceptible to this type of failure mechanism. In Schottky devices, the barrier metal is readily available to form the shorting filament.

Thermal secondary breakdown, or junction burnout, is a power-dependent failure mechanism rather than voltage-dependent.

Metallization Melt

Metallizations on substrates are susceptible to damage from EOS/ESD pulses. Their cross-sectional areas are small and thus they have

limited current-carrying capability. When a junction melt occurs and a filament short forms, joule heating occurs in the associated metallization runs. This can cause subsequent melting of the metal if enough energy is available during the pulse. This failure mechanism is more susceptible to short-duration, high-current pulses since the only available heat sink (the bonding pads) is nearby and the heat dissipated in the metallization does not have time to flow to the surrounding area. Metallization melt is also a power (or energy) dependent failure mechanism.

Gaseous Arc Breakdown

EOS/ESD-induced gaseous arc discharge inside the package can cause degradation of LSI and memory ICs with passivation/active junction interfaces. This is caused by surface inversion resulting from the positive ions deposited on the chip surface as a result of the gaseous discharge. Packages with nonconducting lids, which can become electrostatically charged, are especially susceptible to this phenomenon. A special case of this is ultraviolet EPROMs. Due to their transparent quartz lids such failures can be annealed by neutralizing these positive charges with ultraviolet light transmitted through the quartz lid.

The gaseous arc breakdown is a voltage-dependent failure mechanism.

Cautions Regarding Failure Mechanisms

Although given failure mechanisms are usually associated with specific technologies, it is erroneous to assume a given failure mechanism simply by knowing the technology of a given part. Thorough failure analysis of each failure is a prerequisite to a true understanding of EOS/ESD failures.

For example: an MOS microcircuit can be destroyed by dielectric breakdown of one of its transistors. However, for MOS microcircuits,

dielectric breakdown cannot automatically be assumed to be the failure mechanism. The device input protection circuit is actually bipolar in nature and is designed to limit the voltage which the MOS transistor sees to a level below its breakdown. Likewise, linear bipolar integrated circuits such as op amps often have internal MOS capacitors for frequency compensation. These MOS capacitors fail due to dielectric breakdown.

This makes it very difficult to assume a particular failure mechanism for a device based simply on its generic technology without extensive failure analysis. A discussion of ESD failure analysis procedures is beyond the scope of this document. However, if literature on this subject is required, it is suggested that reference 36 and 37 be consulted for an extensive treatment of this topic.

ESD-INDUCED LATENT FAILURES

ESD-induced latent failures are subsequent device failures which occur prematurely as a result of that device's previous exposure to an ESD transient. These types of failures have recently become of major concern since it has not been known to what extent the long-term reliability of a device is impacted by exposure to an electrostatic discharge. Some of the questions which arise when addressing the topic of latent failures are:

- (1) What part types are susceptible to ESD-induced latent failures?
- (2) What are the time-dependent failure mechanisms for these part types?
- (3) How does cumulative pulsing at sub-threshold levels affect this susceptibility?

- (4) Even if a device remains in spec after an ESD pulse but still experiences a parametric shift, what effect could this have on a higher assembly level of equipment?

There have been various studies addressing the subject of ESD-induced latent failures (Refs. 3, 4, 5, 6, 7, 8, 9, 12, 13 14). Most of these studies did not support the reality of ESD-induced latent failures. However, a recent study (Ref. 13) designed specifically to determine if ESD-induced latent failures are a reality has given valid indications of their existence. Much larger sample sizes were used to increase the chances of latency detection.

This study consisted of stressing a sampling of devices in varying degrees, selecting those devices which were marginally out of specification, observing the critical parameters of these devices during life test, and then comparing these samples with a control sample of unstressed devices. Two devices were tested: the 3N128 MOS FET and the 54L04 low power TTL hex inverter. The preliminary study of this effort indicated a higher propensity for subsequent failures to occur on a device with latent gate oxide damage. Samples of each device were stressed using single and multiple pulses over a range of voltages. Devices which were degraded severely, moderately, slightly, or not at all were then life tested and compared to the control sample.

In general, both the 3N128 and 54L04 device samples that were not degraded remained stable during subsequent life test. Some of the 3N128 devices which were marginally degraded, as indicated by a slight (in spec) upward shift in V_{GS} (off), after multiple (200) pulses saw this same parameter decrease again during subsequent life test. One of these devices resulted in a definite out-of-spec condition at 840 hours of operation at 75°C and another device appeared to be headed in the same direction. Those 3N128s which were marginally degraded after only a single pulse exhibited a fairly stable V_{GS} (off) during the subsequent

life test. The 3N128 transistors which were severely degraded, V_{GSS} (off) out-of-spec or exhibited a large shift in I_{GSSR} remained fairly stable during subsequent life tests.

Of the 54L04s which were degraded, the majority were out-of-spec by an order of magnitude, so that samples of devices only marginally degraded were not available. However, a number of devices which failed in a stuck-high condition exhibited additional degradation during the life test. This occurred with both single and multiple pulsed devices.

The results of these tests indicate that latent failures are indeed a reality. It concludes that latent failures can occur in both field effect devices and bipolar devices and that such defects are also dependent upon the number of pulses and the level of damage that the device sustained. It also indicates that the failure voltage susceptibility level of a device does not necessarily correlate with the latent damage susceptibility level of the device. For example, the 54L04 is a relatively insensitive device to catastrophic damage but seems to be quite susceptible to latent damage.

There are still many questions to be answered concerning ESD-induced latent failures such as:

- (1) What factors or parameters of a device are latent degradation mechanisms dependent on?
- (2) How can the long-term reliability be predicted where a part may experience an ESD pulse during usage?
- (3) What effect does stressing a device with different models have on its propensity for latent failure?

There are at present no known methods for screening out potential latent ESD failures, and this indicates a need for further investigation and evaluation of this very subtle failure mode.

TESTING MODELS AND TECHNIQUES

Introduction

Various models exist which attempt to duplicate the type of discharge that can occur during actual handling and operational conditions. Each of the models presented here represents a different situation in which electronic devices can be damaged by static electricity.

Although all of these models duplicate a different discharge situation, it is still the high-amplitude, short-duration electrostatic discharge pulse which eventually can cause the destruction of electronic components. Along with the peak voltages and currents incurred in a device, it has been shown in the generalized Wunsch-Bell electrical overstress model (Reference 28) that the pulse duration (t) is of prime importance in determining the power to failure of a bipolar junction. The power to failure is in the following general form for different pulse widths (See Figure 1).

$t < 0.1 \mu s$	$P = Kt^{-1}$
$0.1 < t < 100 \mu s$	$P = Kt^{-\frac{1}{2}}$
$t > 100 \mu s$	$P = Kt^0 = K$

The $P = Kt^{-1}$ region corresponds to a situation in which the pulse is of a short enough duration such that an adiabatic condition exists. That is, the pulse duration is shorter than the time it takes the heat dissipated near the junction to spread to surrounding areas. The $P = Kt^{-\frac{1}{2}}$ region corresponds to a semiadiabatic situation in which the pulse width is long enough to allow some heat to diffuse into the surrounding areas. In the $P = Kt^0$ region, the pulse width is sufficiently long to allow the heat to dissipate to surrounding areas at a constant rate while the pulse is occurring. K in the above equations is a constant

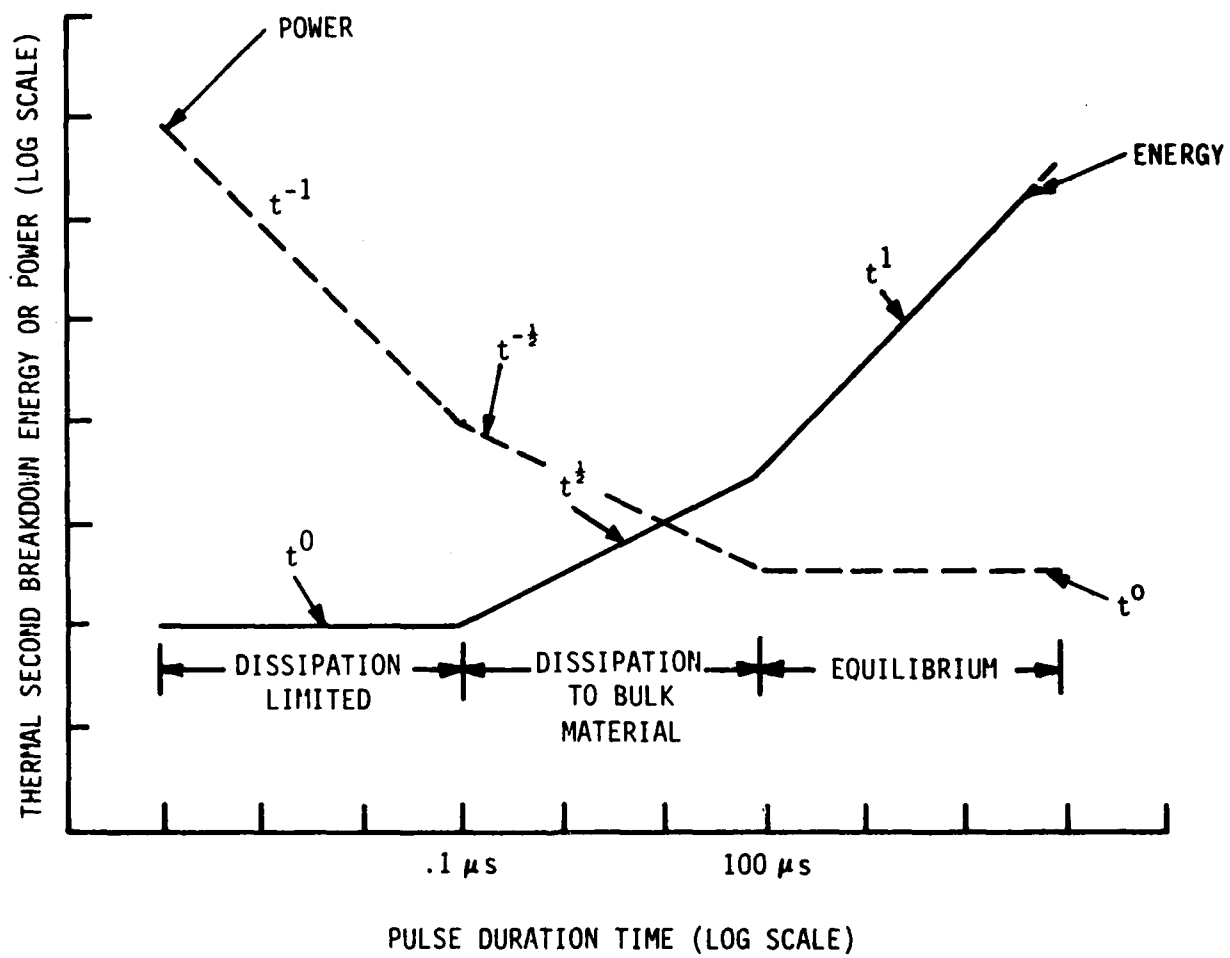


FIGURE 1: FAILURE POWER AND ENERGY VS. PULSE WIDTH

dependent on the following device parameters: thermal conductivity, density, specific heat, and the melting point of the semiconductor material.

Electrostatic discharge pulse widths are normally in the $P = Kt^{-\frac{1}{2}}$ region. This is evidenced by the $0.75 \mu s$ pulse width associated with the discharge from a 100 pF, 1500 ohm standard human body model. These values have been found to be reasonable for typical human bodies. However, if testing on a part is done with a very low series resistance (i.e., less than 200 ohm) and/or a low capacitance, the pulse width is sufficiently short to put the relationship of failure power and pulse width in the $P = Kt^{-1}$ region. It is also true that if very large resistances and/or capacitances are used, the failure power and pulse width relationship may be in the $P = Kt^0$ region. The plot of relative failure power as a function of pulse width is depicted approximately in Figure 1. Since the energy to failure is the integral of the power to failure, the pulse width and associated energy to failure is:

$t < .1 \mu s$	$E = Kt^0 = K$
$.1 \mu s < t < 100 \mu s$	$E = Kt^{\frac{1}{2}}$
$t > 100 \mu s$	$E = Kt^1$

The failure mechanisms modeled by this kind of pulse width dependency are power or energy-related mechanisms, such as thermal secondary breakdown.

The theoretical waveform for all discharge models presented here is decaying exponential (Figure 2) with the pulse width (RC) and peak current depending on the source resistance and capacitance and on the capacitor voltage.

For a double exponential decay pulse (one time constant $\tau = RC$), ninety-nine percent of the energy will be dissipated in 5 time

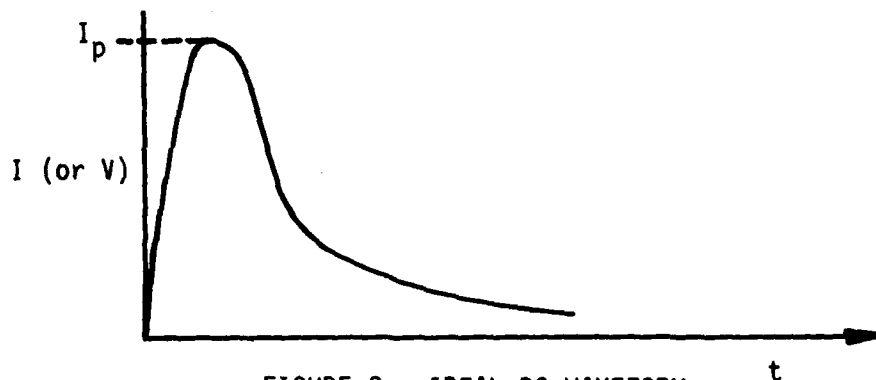


FIGURE 2: IDEAL RC WAVEFORM

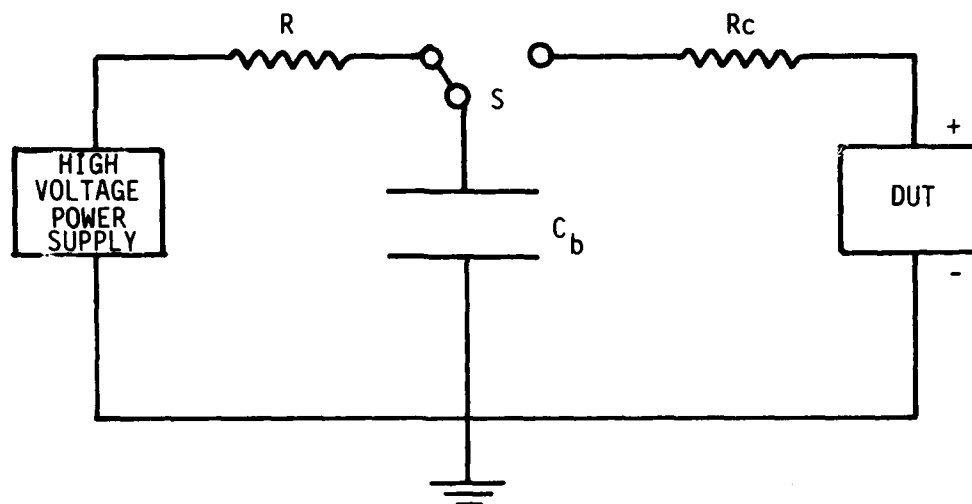
constants. Therefore, the pulse width for the Wunsch-Bell model is assumed to be 5τ ($=t$). Since the Wunsch-Bell model is based upon empirical square wave data utilized for EMP assessments, it is an approximation to convert to ESD levels using this model. This will be addressed in detail in the Data Conversion Methods section. However, since the relationship of power vs pulse width is also an approximation, the validity of the assumptions seems acceptable, certainly for the $P = t^{-1/2}$ time domain.

Human Body Model

The human body model had been the most widely used and standardized ESD susceptibility testing model to date. A schematic of the test fixture of this model is shown in Figure 3 and its equivalent circuit in Figure 4 (Reference 25).

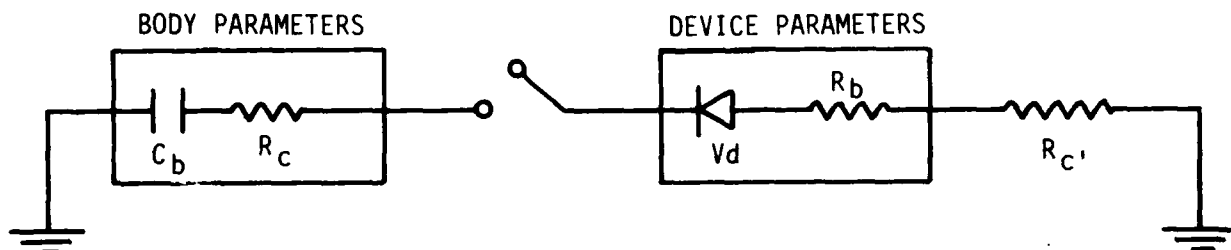
This model simulates a situation in which a charged person or object comes in contact with a device that has one or more connections tied directly or resistively tied to ground.

The current, voltage, power and energies are easily calculated by knowing the source capacitance (C_b) and source resistance (R_c). The waveform, as in all discharge models, is theoretically a decaying exponential (as in Figure 2) with the pulse width depending on the



R = Charging Resistor
 S = High Voltage Switching Element
 C_b = Source Body Capacitance
 R_c = Source Contact Resistance
 DUT = Device Under Test

FIGURE 3: HUMAN BODY MODEL TEST CIRCUIT



C_b = Body Capacitance
 R_c = Contact Resistance
 V_d = Voltage Drop Across Stressed Junction
 R_b = Device Internal Resistance
 $R_{c'}$ = Device Contact Resistance to Ground

FIGURE 4: HUMAN BODY MODEL EQUIVALENT CIRCUIT

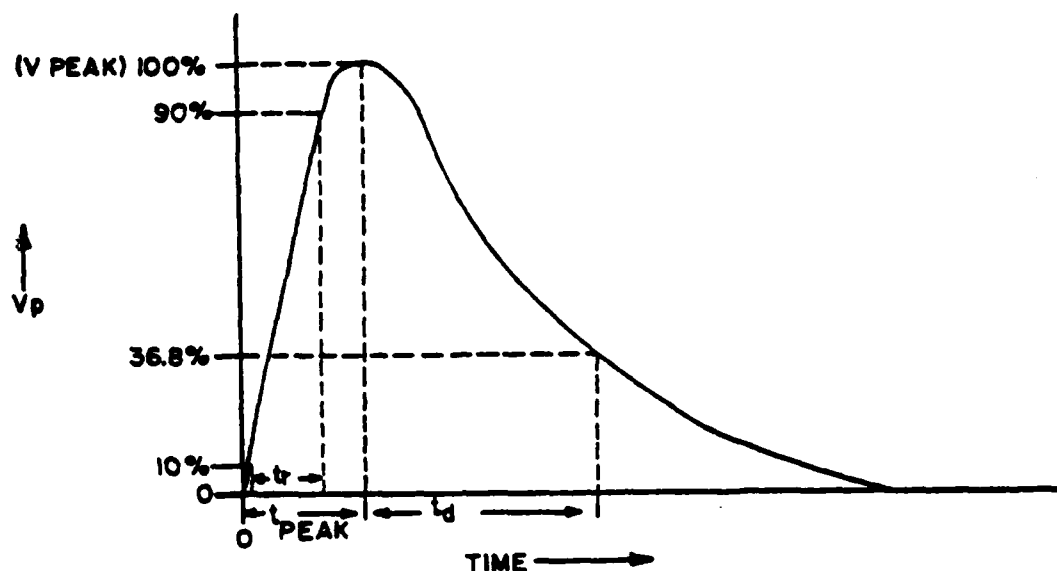
resistance and capacitance. Experimental evidence has shown that the range of capacitance of a human body is normally between 50 pF and 200 pF and the range of resistances is 1000 to 5000 ohms.

Since the failure voltage of electronic devices is highly dependent on the current and voltage and hence the resistance and capacitance, it is extremely important that the standard values be employed to establish a reference by which all test data can be adequately compared. Values of 100 pF and 1500 ohms are the ones which are the most common. These values are the ones which are called out in DOD-STD-1686, DOD-HDBK-263 and MIL-STD-883 Method 3015.1.

As we have already shown, the power and energy required for device failure are pulse-width dependent, and, since varying the values of R and C also varies the pulse width, it is imperative that values be chosen which adequately model the real-world situation. Specifically, it is known that a static discharge from a human body model (with a realistic R and C) is in the $P = Kt^{-1/2}$ region which agrees with the pulse width of the 100 pF, 1500 ohm model. Figure 5 depicts the specifications for the waveform as they appear in MIL-STD-883 Method 3015.1.

As will be seen in the discussion of other testing methods, the human body model is not necessarily the one which will best duplicate the failure sites in microcircuits in various stages of production, assembly, handling, field use and repair.

Recent studies have developed additional theories of discharge which simulate situations quite different than that portrayed by the human body model. The human body model simulates a situation where a charged person or object comes into contact with a pin or pins of a device while the other pin or pins are connected either directly or resistively to ground. However, it has been shown by several



1. The rise time, t_r , of the pulse voltage, V_p , shall be measured from 10% to 90% of the peak amplitude, V_{peak} , and shall not exceed 15 nanoseconds.
2. The pulse decay across R_2 to ground shall be a single exponential waveform whose decay time, t_d , when measured between V_{peak} and 36.8% V_{peak} , is $R_2 \times C_1 \pm 10\%$, or 150 ns.
3. For initial waveform test only the voltage waveform will have the following characteristics: $V_p = 50\% \pm 15\%$
the pulse decay time, t_d , will be $(R_2 + R_3) \times C_1$ or 300 ns.

FIGURE 5: MIL-STD-883 METHOD 3015.1 SPECIFIED WAVEFORM

investigators (References 30, 32) that the human body model discharge does not necessarily duplicate all failure modes.

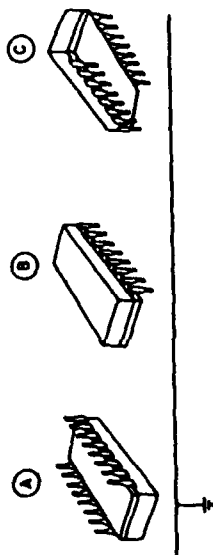
The human body model is effective in testing the input protection capability of a device. This is the model which is specified in the MIL-M-38510 slash sheet test procedures and in the past it has been the most widely used and understood. The majority of test data presented in this publication was originally recorded utilizing this model. However, the source resistance and capacitance values used did vary widely. Therefore, a formula was derived to correlate failure threshold voltages measured utilizing one value of R and C to failure threshold voltages anticipated utilizing different values of R and C. See Data Conversion Methods in this section for Nonstandard Test Data Conversion and Appendix A for derivation of the actual conversion formulae.

Charged Device Model

The charged device model assumes a charge can be placed on the lead frame of a device and then discharge to ground through one or more of its pins through a very low resistance. The means by which the device can accept a charge is through its capacitance. This capacitance can vary with the geometry of the device itself and on the device's relative orientation to ground as seen in Table I (from Reference 30). The device capacitance was measured for each orientation with the device separated from the ground plane by a thin insulator. Figure 7 illustrates the test set up as explained in Reference 30. The equivalent circuit is in Figure 6.

One way this charge could be placed on the device is by sliding it out of a shipping tube onto a grounded surface (Reference 31). This is not the only means by which the lead frame can become charged but may represent a very common occurrence. The sliding motion of the device on the plastic tube generates a triboelectric charging of the IC pins and

TABLE 1: DEVICE CAPACITANCE VS ORIENTATION



DEVICE CAPACITANCE (pF)

ORIENTATION	16 PIN DIP (PLASTIC)		18 PIN DIP (PLASTIC)		24 PIN DIP (PLASTIC)		24 PIN DIP (CERAMIC SIDE-BRAZED)		40 PIN DIP	
	A	B	A	B	A	B	A	B	A	B
A	2.9	2.0	3.6	2.3	7.1	3.9	28	3.6	52	6.6
B										
C	1.4		1.6		2.0		2.0		2.8	

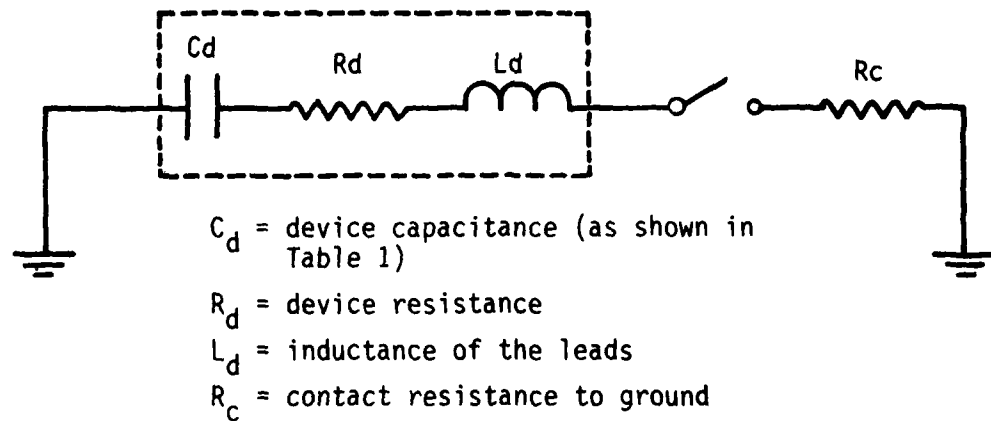


FIGURE 6: CHARGED DEVICE MODEL EQUIVALENT CIRCUIT

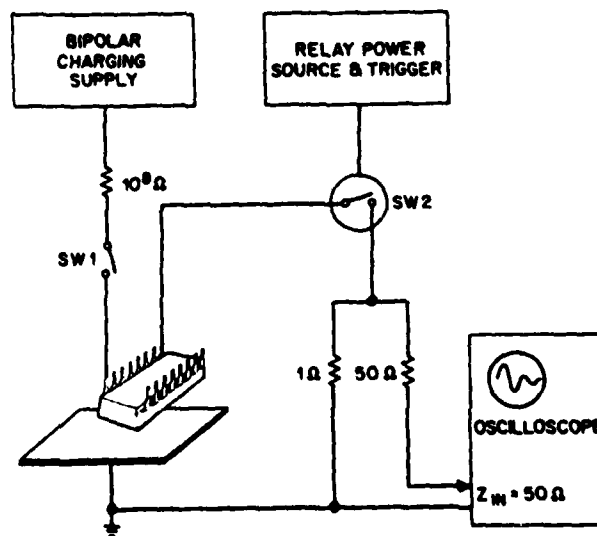


FIGURE 7: CHARGED DEVICE MODEL TEST FIXTURE

lead frame. Since the lead frame is conductive, a constant charge density results (an equipotential surface) due to the capacitance of the device. This capacitance coupled with the charge stored on the device is the cause of the potential ESD hazard. Damage from the charged device model assumes a very low resistance to ground upon device discharge. This results in a high-amplitude, short-duration pulse. In the situation where a device slides out of a tube and contacts a conducting surface, in reality the surface does not necessarily have to be grounded for device damage to occur since the capacitance of the surface may be much higher than that of the device and, hence, capable of accepting most or all of the charge on the device.

The capacitance of a device is relatively small compared to that normally used to model a human. This, along with the low resistance to ground upon discharge, causes a much shorter transient than is the case with the human body model. This can be a much worse case because the power versus pulse width may now be in the adiabatic region ($P = Kt^{-1}$).

This model was originally proposed by Speakman (Reference 25) and then further investigated by Bell Laboratories (References 21, 29, 30, 31).

See source codes 380-382 for 16K EPROM data (part number not reported (NR)) for data comparing charged device model to human body model.

Floating Device Model

This model simulates that situation where a device is contacted by a charged person or object while the device pins are not grounded. This model is similar to the charged device model in that the damage mechanism occurs because large voltage gradients have time to couple

into any or all areas of the chip. The significance of this model is that the damage occurs while the device is being charged rather than while being discharged. This is in contrast to the charged device model where the damage occurs from the rapid discharge of the device after it has been slowly charged up. In the floating device model as in the charged device model, the capacitance of the device to ground is the single most important variable in determining the device susceptibility. The capacitance is dependent upon the relative orientation of device and the ground plane (as shown in Table I). It should be pointed out that the circuit board in which a device is mounted may serve to increase the total capacitance of the system to ground and therefore make it possible to deposit more energy in a device during discharge. The significant difference between this model and the charged device model is that in the charged device model the damaging mechanism occurs during the device discharge to ground after it has been charged up while in the floating device model the damaging mechanism occurs as the device is being charged from an external object. Because of the strict dependence of ESD sensitivity on the orientation of the device, a device is more susceptible when it is closer to the ground plane and thus it has a larger capacitance.

It has been shown that devices are normally less susceptible to stressing with this model if a resistance and capacitance similar to the standard human body model are used (100 pF, 1500 ohm) (see Ref. 26). This model would indeed be similar to the charged device model if a very low resistance is used in the stressing circuit of Figure 8. In the floating device model the device sees a very fast transient as it is coupling to the applied voltage, whereas in the charged device model the device sees the very fast transient upon discharge (of opposite polarity) after it has been charged slowly.

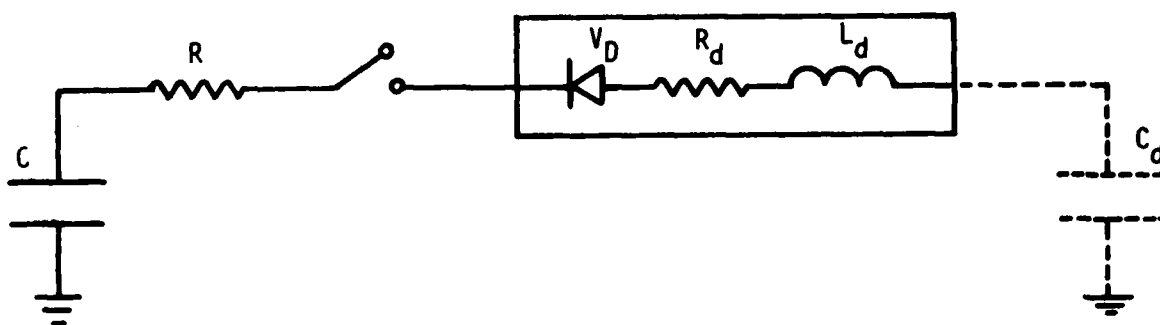


FIGURE 8: FLOATING DEVICE MODEL EQUIVALENT CIRCUIT

where

R = source resistance

C = source capacitance

V_D = voltage drop across the stressed junction

R_d = device internal resistance

L_d = device inductance

C_d = device capacitance to ground

See source codes 170-230 for the 74F04 and 74F175 and source code 004 in the detailed data section for comparison of the floating device model versus the human body model.

Field Induced Model

This model simulates a situation where a device is subjected to an electrostatic field without any hard contact being made. There are two basic ways in which a microcircuit could be damaged in this way.

First, if a MOS structure is in a shipping tube and a charged person or object comes near the outside of the tube, the inherent capacitor structure of the MOS gate forms a capacitive voltage divider between the MOS capacitor and the capacitance of the charged body to the device. If the voltage (V_D) exceeds the breakdown voltage of the oxide, device damage will occur.

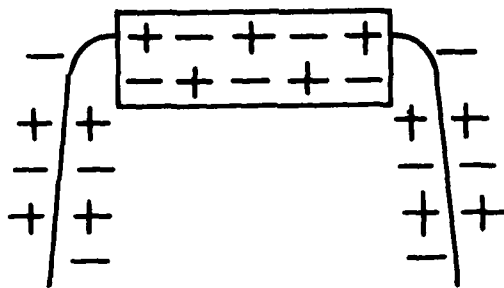
Consider another example: If a device is subjected to an electrostatic field (from any source), the theoretical voltage across the gate oxide (for a leadless chip) perpendicular to the field lines is the voltage field gradient times the oxide thickness. But in a dip package, for instance, the voltage across the gate oxide will be the voltage field gradient times the lead separation distance. In this case the leads are conductors and act as antennae for the field.

Another way in which devices could fail due to an induced field is if a charge occurs either triboelectrically or otherwise on the nonconducting part of an IC (see Figure 9). Although there can be no damaging current from the nonconducting portion directly, that charge emits an electrostatic field and therefore induces a charge on the conducting leads of the device. There can be no net charge on the lead frame, but charge separation will occur when the device is grounded. This can cause a high-amplitude, short-duration damaging pulse.

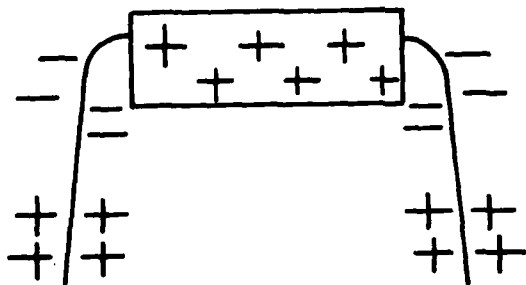
Little data on this model is presently available, but it has been shown that it is a valid model for some device handling and storage situations.

TEST TECHNIQUES

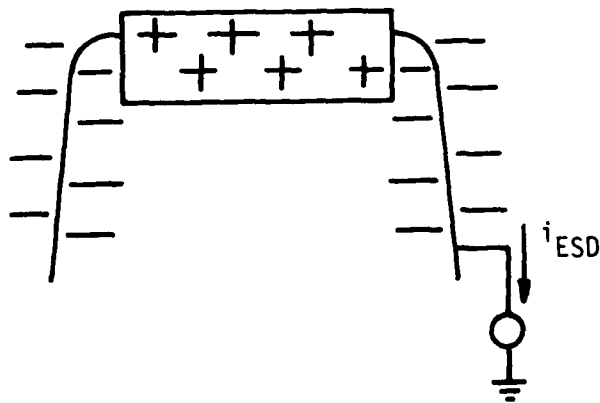
Due to the complexity of modern integrated circuits (especially LSI devices) it is costly and time-consuming to evaluate and characterize every possible path an ESD pulse could take. It has been common practice in testing for ESD susceptibility to use a minimum number of parts to determine the most sensitive pin combination or path and then to do a characterization of that one pin combination. Although it can often be ascertained which pin combinations will be the most susceptible (i.e., unprotected MOS gates, poorly protected MOS gates, pinned-out MOS capacitors, thin oxide underpasses, inputs of technologies utilizing very small geometries, etc.), electrostatic discharges can be so subtle



UNCHARGED DIP



DIP WITH IMMOBILE CHARGE ON BODY INDUCES CHARGE SEPARATION ON LEAD FRAME.



ESD RESULTS WHEN GROUNDING LEAD FRAME. DEVICE LEAD FRAME IS NOW CHARGED.

FIGURE 9: CHARGE INDUCED ON DEVICE LEAD FRAME DUE TO IMMOBILE CHARGE ON PACKAGE BODY

that pins not normally believed to be sensitive can be sensitive to models other than the standard human body model.

To obtain a very good ESD susceptibility characterization of a part, testing should be performed with the various models and test fixtures previously described. Since the failure site and mechanisms may not necessarily be the same for failures using the different models (Ref. 32), testing with only the human body model will yield only a partial characterization of a device.

For a detailed characterization of a device's susceptibility to ESD, a minimum critical energy or voltage must be found that will just damage the device. The simplest and most cost-effective way of obtaining this is to subject the device to a step-stress test, i.e., applying pulses of increasing magnitude until device failure is detected. This method, however, may yield a value for the voltage threshold of a device lower than the actual one-pulse threshold. This is possible if the particular device under test is prone to cumulative effects. It has been found by various investigators (Refs. 26, 33) that the relationship between the stressing voltage and the number of pulses to failure appears to be a kind of decaying exponential which tends to level out at about 30 pulses; that is, applying 30 pulses at a single voltage may give a worst-case condition.

Since the data presented in this book was collected from many different sources, the question arises as to what degree of correlation can be expected from different test labs. To address this question, in 1981 RAC supplied three independent test labs with a sampling of the same parts with the identical date codes and the same statement of work (Ref. 26). The results of this study indicated that in the overall analysis of the data no one test lab's results were significantly different from the others. It was noted, however, that although there was no significant difference in test labs there were large variations in the failure voltages recorded for any one given pin. This study

emphasized the fact that ESD susceptibility test results intrinsically have a high degree of variability.

Failure Criteria Selection

The failure criterion used in establishing an ESD failure is critical to the outcome of the testing. This may be illustrated by the use of two examples. In the first example, let us assume that the failure criterion for a bipolar device is defined as a certain percentage change in leakage current. This may be a difficult failure criterion to implement because the relationship of leakage current versus stress voltage itself is not well-defined. In the second example let us assume that the leakage current specification limits are used as the failure criterion for the same parts. The device which we are testing is relatively tolerant to ESD and remains within the specification limits when stressed with a pulse well below the damage threshold. Nevertheless, there is a measurable change in the leakage current, i.e., the device has been degraded; however, it does not exceed the specification until it is subsequently pulsed with a much higher energy pulse. In the case that we know some degradation has occurred, we can measure the degradation, but because of the failure criterion it is not considered susceptible to ESD damage at the lower level. For this reason, the criterion used to detect device failure must also be selected in accordance with the device operating characteristics and the manner in which the device is designed into a circuit, i.e., if a certain circuit configuration can tolerate a parameter shift or even an out of specification condition of this component.

DATA CONVERSION METHODS

Conversion of Nonstandard Human Body Model Test Data

ESD sensitivity classification (Section 3) in this document is presented as voltage sensitivities measured in accordance with the human

body model described in DOD-STD-1686 and DOD-HDBK-263. However, not all of the data collected was obtained under these exact test conditions. Therefore, it was necessary to establish a means for converting data recorded using R and C values other than 100 pF and 1500 ohm to the equivalent values with the standard 100 pF and 1500 ohm human body model. Using semiempirical methods, the RAC has established the following formula for the conversion:

$$V_1 = V_2 (3.87) \sqrt{\frac{C_2}{R_2}}$$

where

V_1 = standard human body model damage threshold

R_2 = nonstandard value of resistance used

C_2 = nonstandard value of capacitance used

V_2 = measured damage threshold using R_2 and C_2

The derivation of this equation may be found in Appendix A.

This method is only used so that a classification in accordance with DOD-STD-1686 and DOD-HDBK-263 can be obtained for inclusion into the classification listing of Section 3. The detailed data of Section 2 presents the data as it was obtained, i.e., the failure voltages of actual models used during testing.

Conversion of EMP Overstress Test Data to the ESD Human Body Model

A vast amount of electrical overstress data has been compiled from Electromagnetic Pulse (EMP) studies. It would be negligent to disregard this potential data source. By knowing certain parameters of a device, a theoretical ESD failure can be calculated using the Wunsch-Bell model as the starting point. The following equation has been established to convert EMP overstress data to the ESD human body model equivalent:

$$V = \left[\frac{-2V_D + \sqrt{4V_D^2 + 1200 K_1 (7.675 \times 10^{-7})^{-K_2}}}{60} \right] 1530 + V_D$$

where

V_D = measured overstress breakdown voltage

K_1 = failure constant 1

K_2 = failure constant 2

The derivation of this equation may be found in Appendix A.

To further verify the validity of the calculated ESD levels presented in this book, data was compared for specific devices which had both empirical ESD threshold data and ESD threshold levels calculated from EMP data. The log of the ratio of ESD to EMP failure voltages was plotted such that a given percentage of discrepancy (i.e., if the EMP level was the same percentage higher or lower than the ESD level) would be equidistant from the 0 line. If the datapoints were randomly distributed about the 0 line and the data did not show a shift in distribution against any parameter, it could be concluded that the failure levels obtained from EMP data were a fairly good indication of the actual susceptibility levels of the devices (not taking into account random variations and noise in the data for any given device).

Figure 10 was obtained by plotting the log of the ratio (EMP/ESD) against the ESD failure voltage. Although there is insufficient data to adequately define any trends in the data that may exist, it can be seen that devices with relatively low ESD threshold voltages (i.e., < 7000 volts) tend to be consistently high compared with their predicted level using EMP data. But at higher thresholds (i.e., > 7000 volts) the distribution seems to be random about the 0 line, indicating a fairly good estimate for the threshold using EMP data.

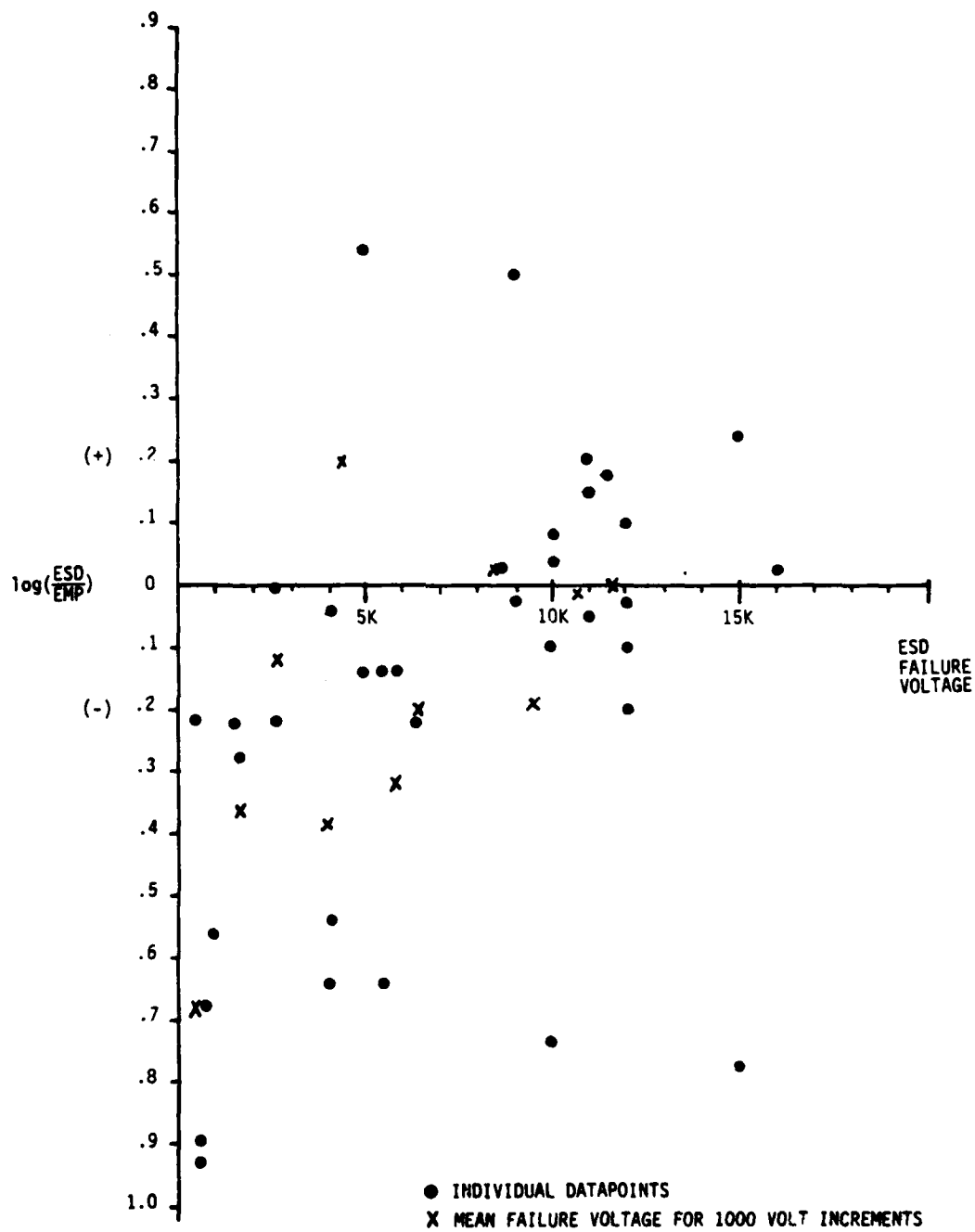


FIGURE 10: EMP VS. ESD DATA COMPARISON

Still, it should be emphasized that the susceptibility levels obtained from EMP data are necessarily only approximate values. It can be seen from Figure 10 that the EMP to ESD levels can differ by as much as a factor of 10. There are various sources of error in converting EMP data to ESD data. Two of these error sources are the uncertainty in the damage constants and the uncertainty in the device parameters (bulk resistance and breakdown voltage). These uncertainties can stem from: (1) the fact that manufacturers are changing their device geometrics (shrinking die sizes to increase yields); (2) normal lot to lot variations; and (3) differences between manufacturers. These variations can easily cause a factor of 10 difference in the susceptibility levels.

DOD-STD-1686 VS MIL-STD-883 CLASSIFICATION

At present, two different ESD susceptibility classification schemes exist, those portrayed by DOD-STD-1686/DOD-HDBK-263 and those portrayed by MIL-STD-883 (Method 3015.1)/MIL-M-38510. Fortunately they both utilize the same test circuit, the human body model and identical critical circuit elements, a 100 pF capacitor and a 1.5K ohm resistor. Table 2 compares the two classification methods. As can be seen, one-way conversion from DOD-STD-1686 classification to MIL-STD-883 classification is quite possible. This is fortunate since the majority of devices tested and classified to date were done in accordance with the older documentation, i.e., DOD-STD-1686. All items tested and classified per DOD-STD-1686 as Class 1 will also be Category A per MIL-STD-883, and all items tested and classified as Class 3 per DOD-HDBK-263 will be Category B per MIL-STD-883. The problem is those parts classified as Class 2 per DOD-STD-1686. These may fall into either category of MIL-STD-883. Referring to Figure 11 we find that of all devices tested to date and found to fall into Class 2 of DOD-STD-1686 approximately 63% failed in the range of 1000 to 2000V while only 37% failed in the range of 2000V to 4000V.

If classification according to MIL-STD-883 is required, it is suggested that the detailed data section be consulted to determine if the device would be Class A or B.

TABLE 2: DOD-HDBK-263 VS MIL-STD-883 CLASSIFICATION LEVELS

DOD-HDBK-263 DOD-STD-1686	MIL-STD-883 (Method 3015) MIL-M-38510
Class 1 0 to ≤ 1000 volts Class 2 >1000 to ≤ 4000 volts *Class 3 >4000 to $\leq 15,000$ volts	Category A 20 to 2000V Category B 2001V and above

*Class 3 is addressed by the DOD-HDBK only. It is not in the DOD-STD.

Unfortunately, lacking actual test data, conversion in the opposite direction from MIL-STD-883 classification to DOD-STD-1686/DOD-HDBK-263 classification is impossible with testing only at the 2000 volts specified in MIL-STD-883.

VZAP testing has been a qualification test requirement on certain MIL-M-38510 slash sheets for a number of years. Specifically this includes all CMOS devices and certain LSI and memory devices. The maximum specified test voltage for these tests is 400 volts, and the devices must be capable of handling the specified VZAP voltage without failure. (See Appendix B for a detailed listing of devices and applicable test voltage levels.) Therefore, unfortunately this test in itself yields only a minimum of usable device ESD susceptibility information.

SUMMARY AND CONCLUSIONS

Certain conclusions can be drawn from analysis of the data and recommendations made regarding future directions of ESD studies.

- (1) Testing with various discharge models, i.e., human body model, charged device model, should both be carried out to fully characterize a device's susceptibility to ESD.
- (2) The results of ESD testing should be better documented and submitted to centralized databases such as RAC's so that duplicate testing of parts can be avoided when possible. An example of this kind of data exchange is the recent Data Item Description UDI-T-3741.
- (3) For organizations conducting testing not in accordance with military procedures, the standard human body model test circuit (100 pF, 1500 ohms) should be used in order that the data may be more readily correlated to other data sources.
- (4) More interfacing between the ESD and EMP communities should be made so that technology can be exchanged in these fields.
- (5) More research should be conducted into the physics of ESD-induced latent failures for a better understanding of this phenomenon.

SUMMARIZED DATA - VOLTAGE VS TECHNOLOGY

The following graphs are histograms generated by taking the failure voltage for each entry in the Detailed Device Susceptibility Test Data Section 2 for each particular technology. Figure 11 is a composite summary including data from all of the technologies in Figures 12 through 29.

Where necessary the actual test voltages were converted to levels consistent with the widely recognized 100 pF, 1500 ohm human body model since mixing failure voltages of data obtained with different resistor-capacitor values and different discharge models would confound the data significantly (see Data Conversion Methods).

It should be noted that data was also included which represents an approximate upper bound of threshold voltages (i.e., one test at one voltage was carried out on a device and a failure resulted. Thus, although exact damage threshold voltage of the device could not be determined from that one data point, it is known that the threshold is equal to or less than the test voltage).

The data as presented in this section may be somewhat biased since all data entries from the detailed data section were used. This bias comes from the fact that where one data source may have included all of the data (on all pins, for example) another may have only presented the worst-case failures (i.e., the most sensitive pin).

It can be seen from the following histograms what the relative susceptibilities of various technologies are. For the individual histograms, the voltages where many devices have failed may be indicative of a particular data source or test method. For example, the peaks at 1000 volts for CMOS, 2500 volts for TTL, 1000 volts for STTL, 1500 volts for LSTTL, etc., were primarily from data contained in source code 030. However, when observing the histogram (Figure 1) for failure voltages of all microcircuits technologies combined, a much larger sample size was available and a fairly well-defined curve was obtained. This curve appears to be a lognormal distribution with the peak at approximately 1000 volts.

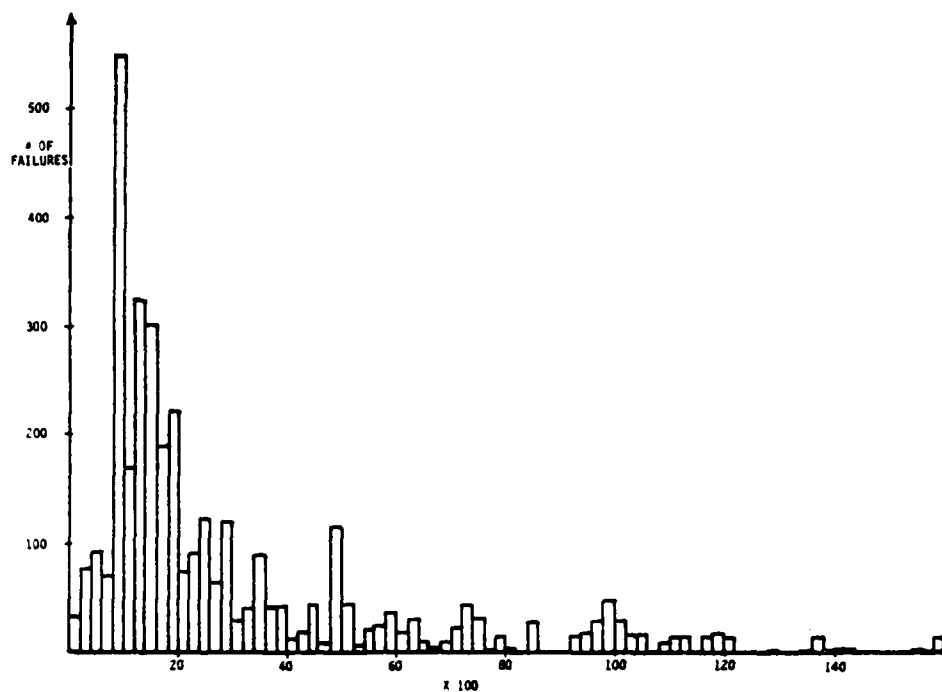


FIGURE 11: FAILURE VOLTAGE PLOT - ALL MICROCIRCUITS

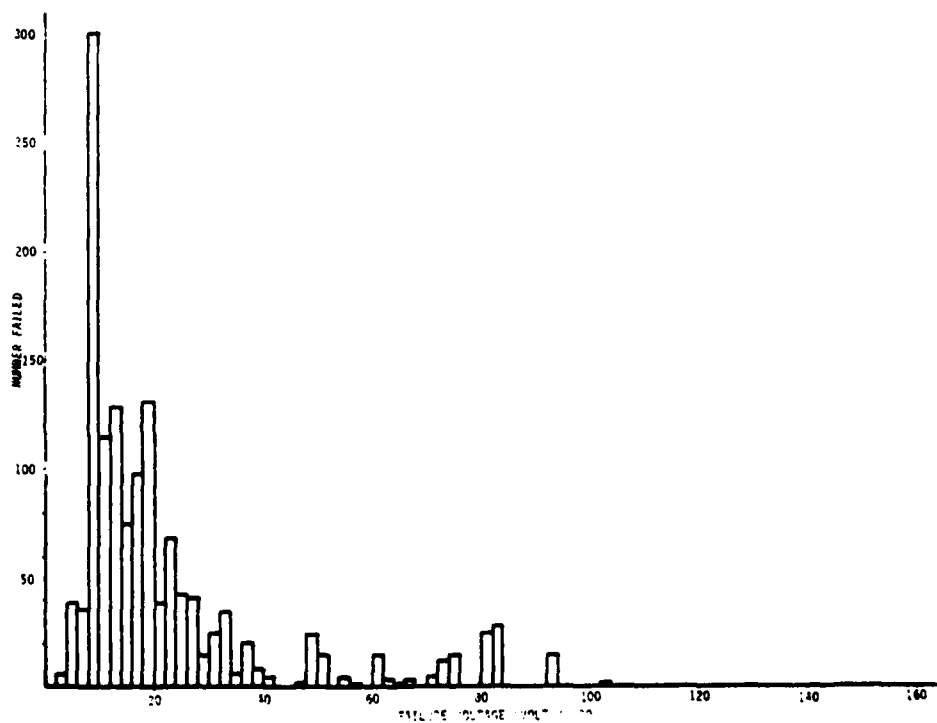


FIGURE 12: FAILURE VOLTAGE PLOT - CMOS

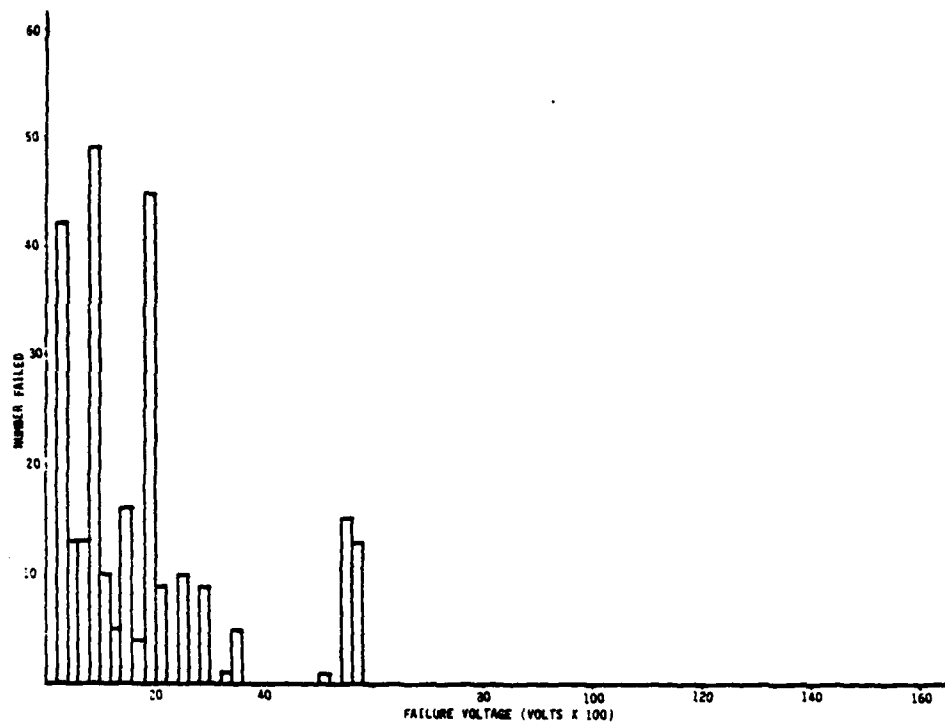


FIGURE 13: FAILURE VOLTAGE PLOT - NMOS

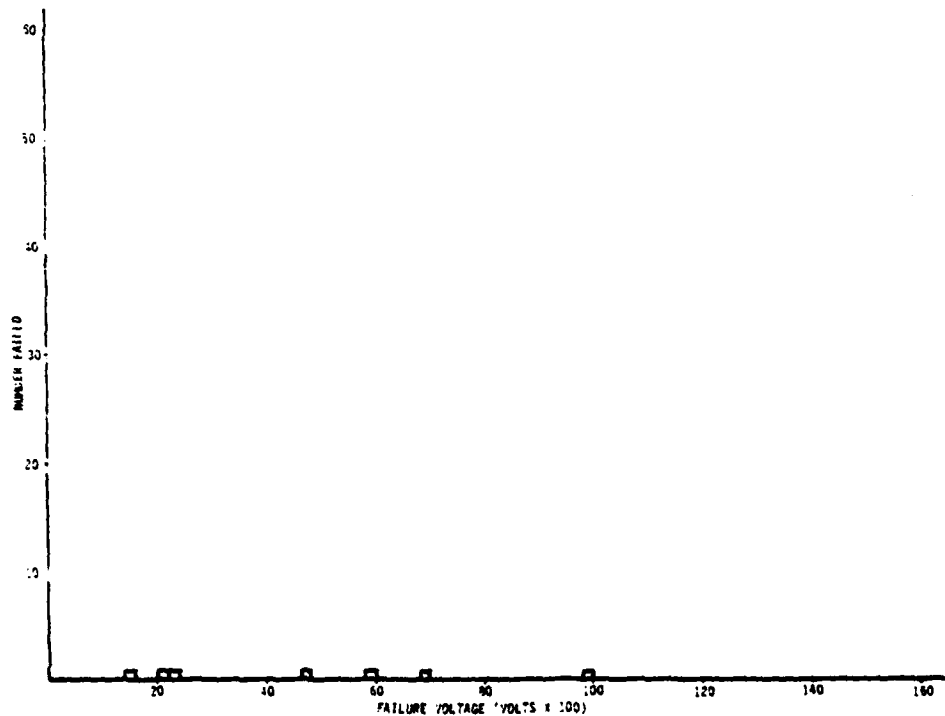


FIGURE 14: FAILURE VOLTAGE PLOT - PMOS

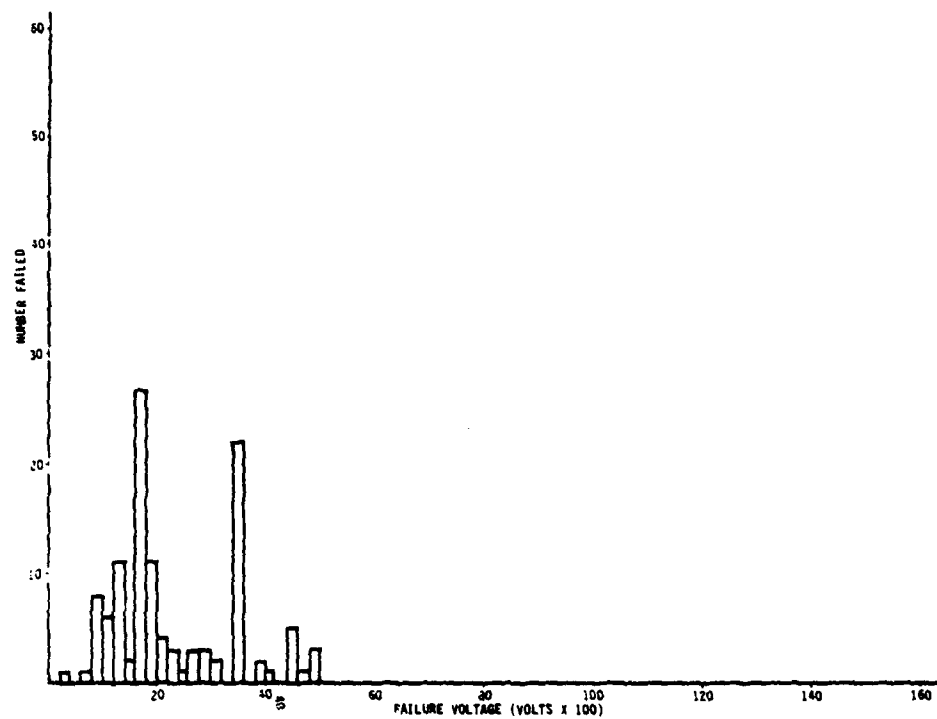


FIGURE 15: FAILURE VOLTAGE PLOT - MOS (NOT OTHERWISE CLASSIFIED)

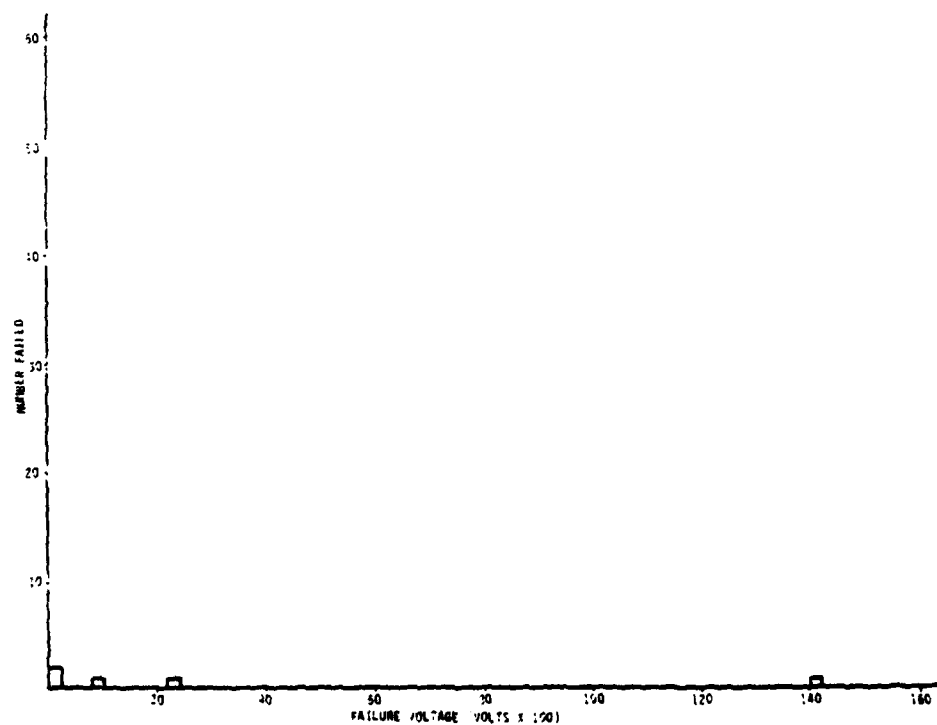


FIGURE 16: FAILURE VOLTAGE PLOT - MNOS

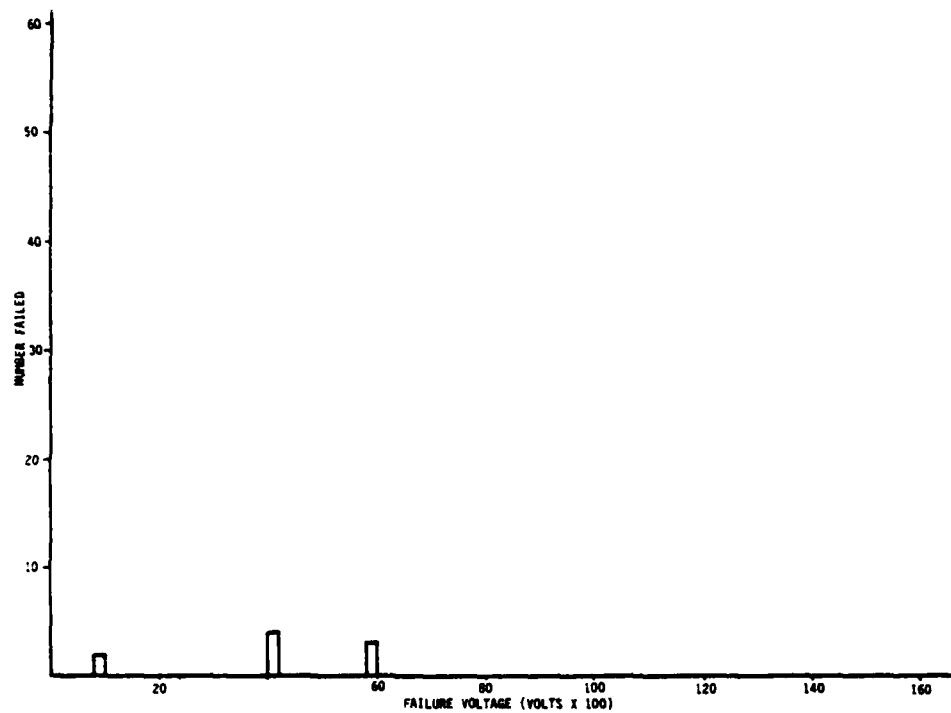


FIGURE 17: FAILURE VOLTAGE PLOT - JFET

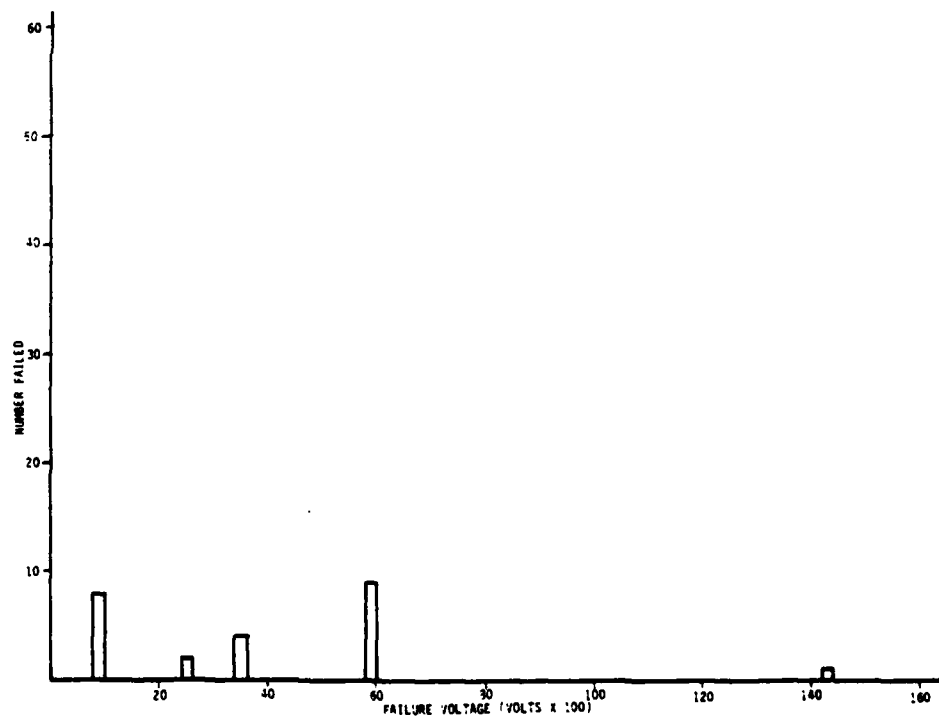


FIGURE 18: FAILURE VOLTAGE PLOT - BIFET

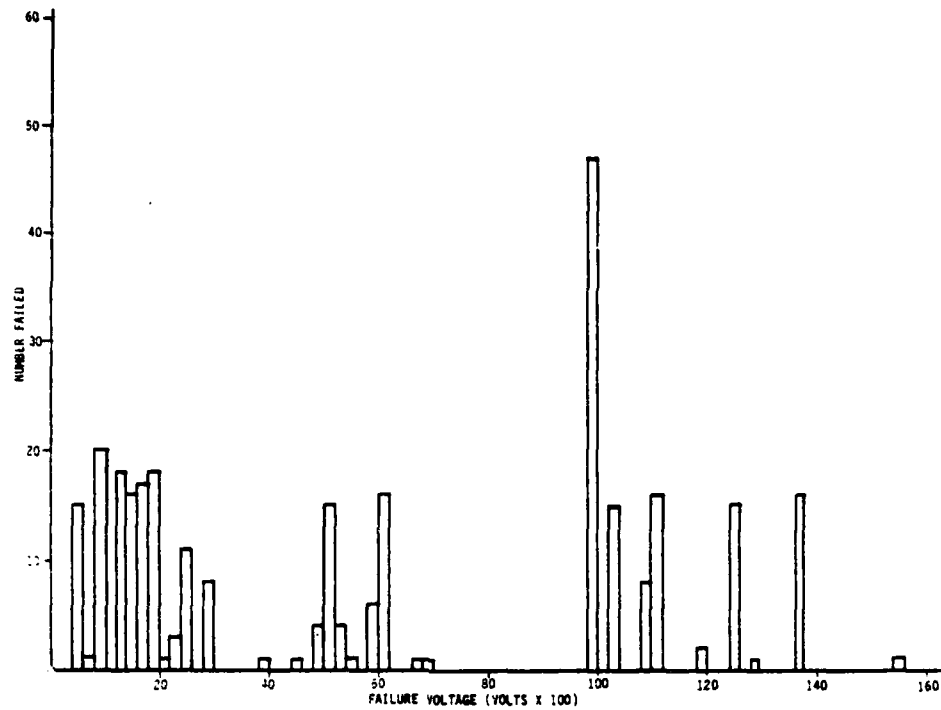


FIGURE 19: FAILURE VOLTAGE PLOT - BIPOLAR (LINEAR & INTERFACE)

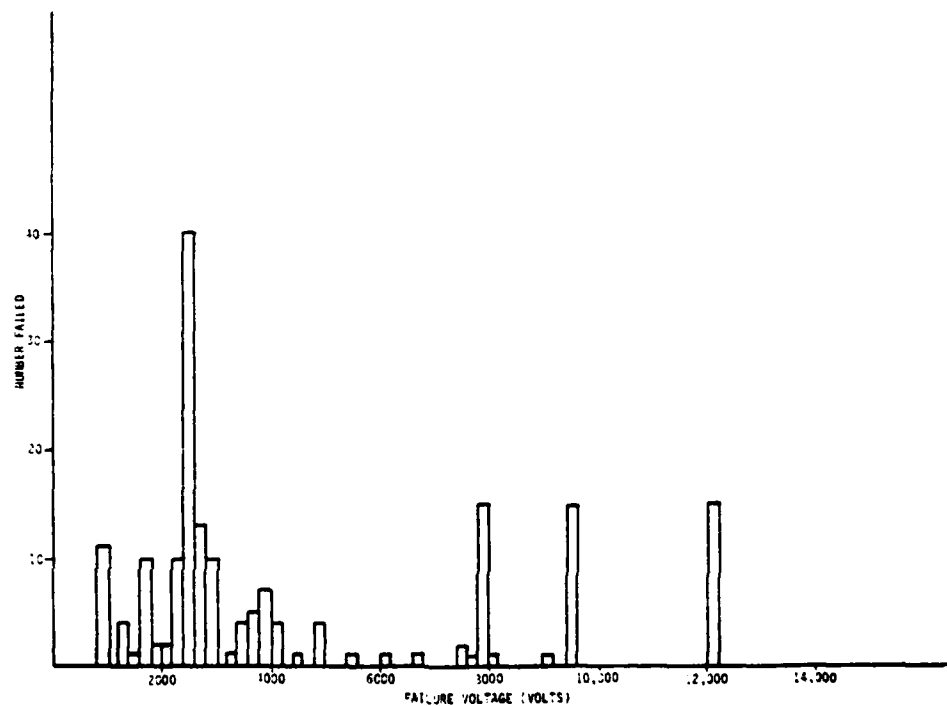


FIGURE 20: FAILURE VOLTAGE PLOT - TTL

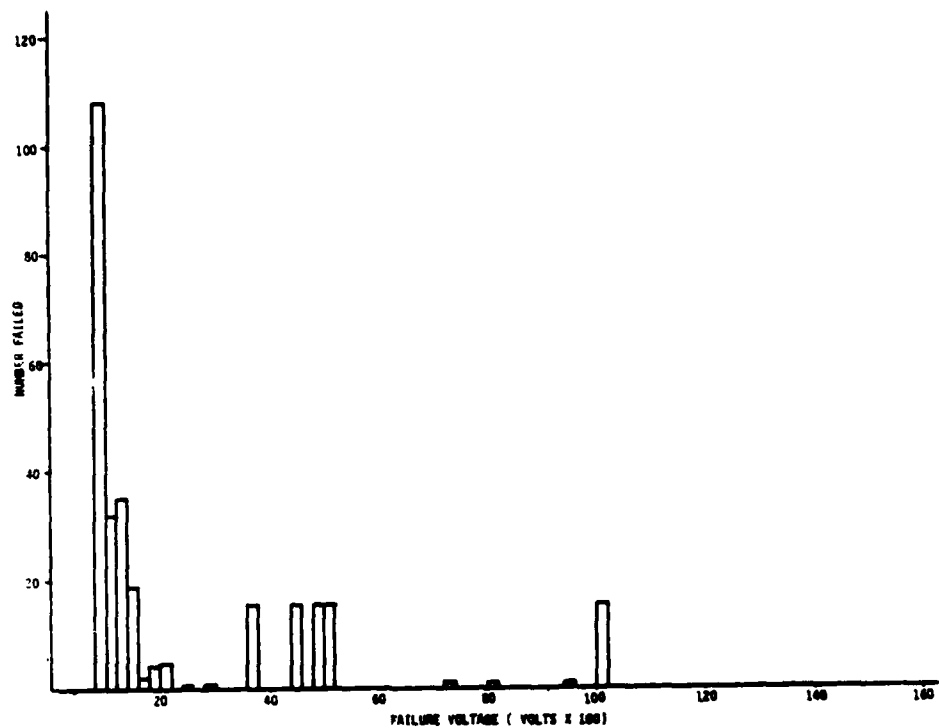


FIGURE 21: FAILURE VOLTAGE PLOT - STTL

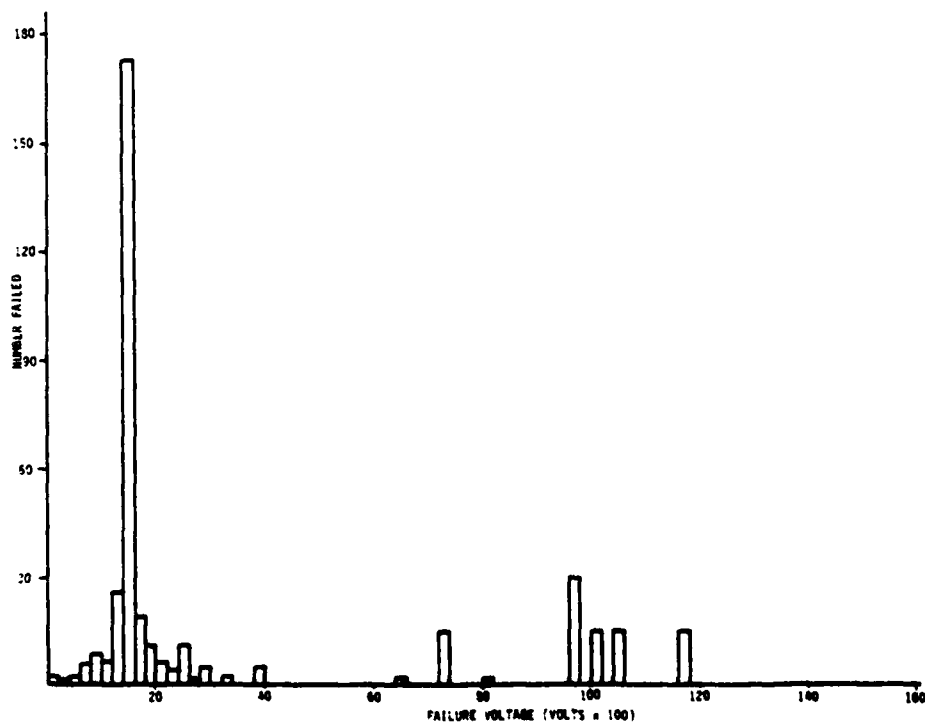


FIGURE 22: FAILURE VOLTAGE PLOT - LSTTL

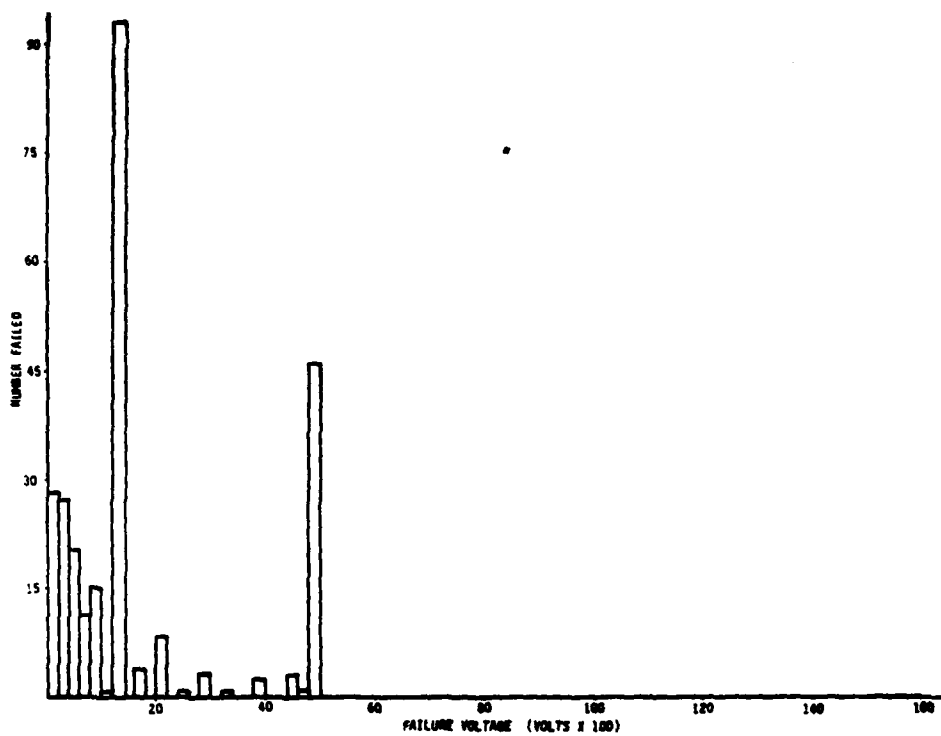


FIGURE 23: FAILURE VOLTAGE PLOT - ADVANCED STTL

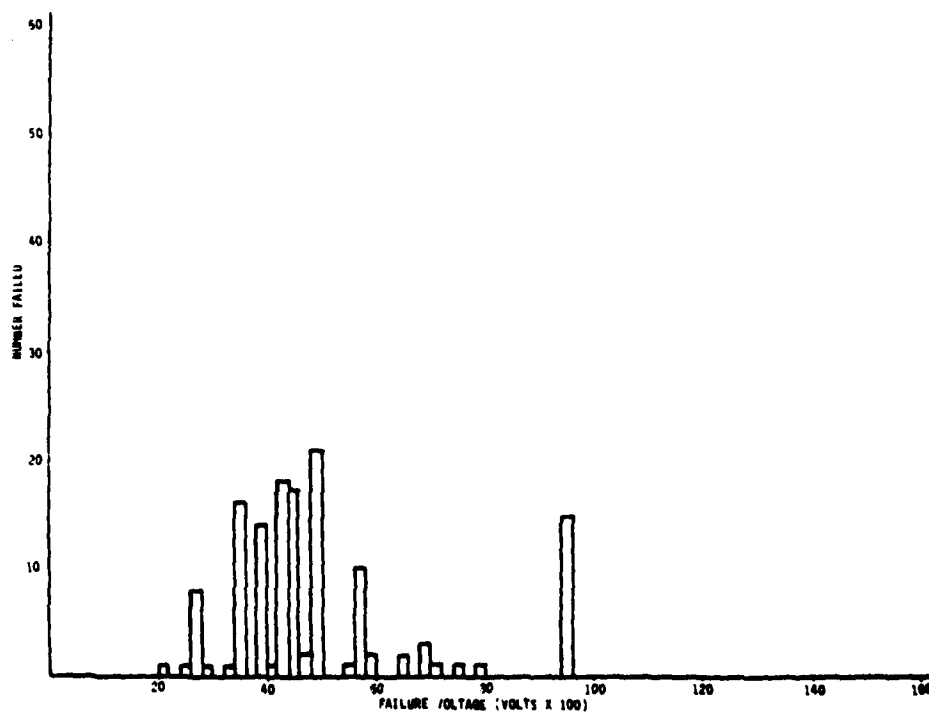


FIGURE 24: FAILURE VOLTAGE PLOT - LTTL

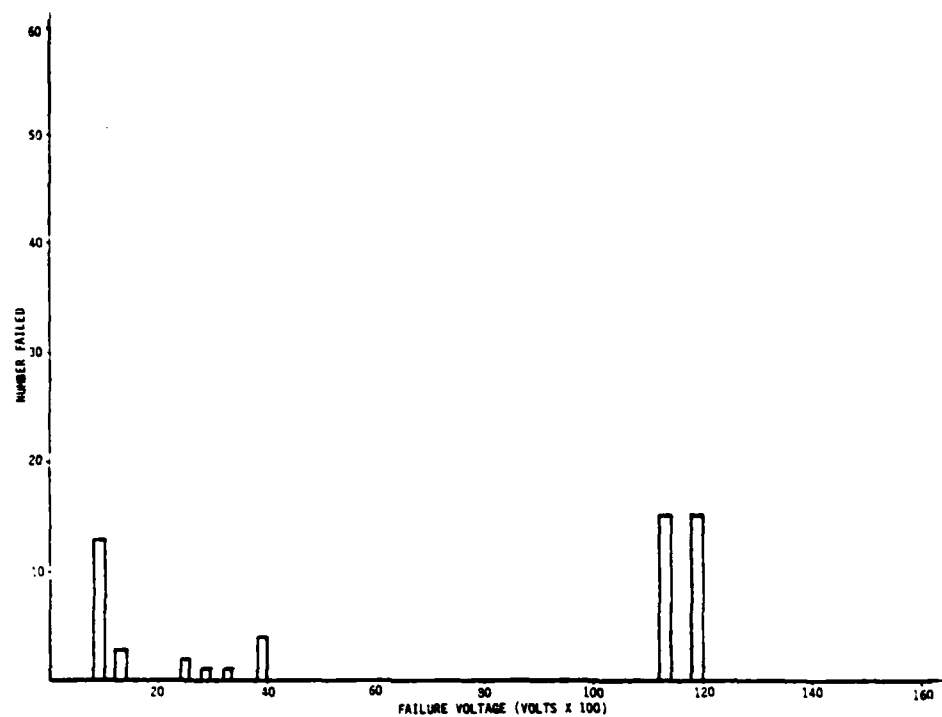


FIGURE 25: FAILURE VOLTAGE PLOT - HTTL

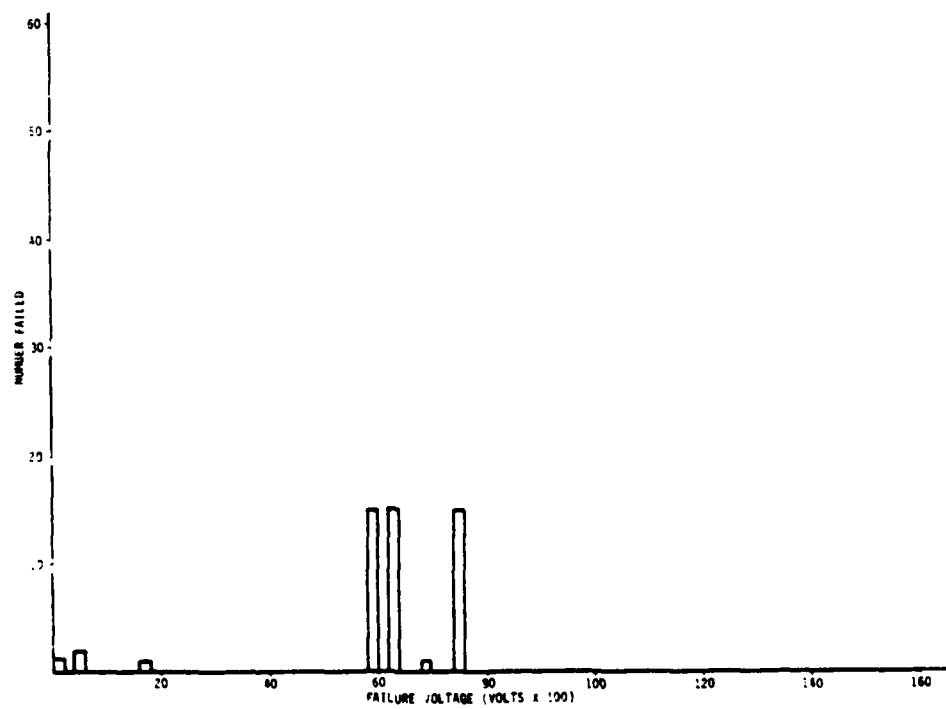


FIGURE 26: FAILURE VOLTAGE PLOT - IIL

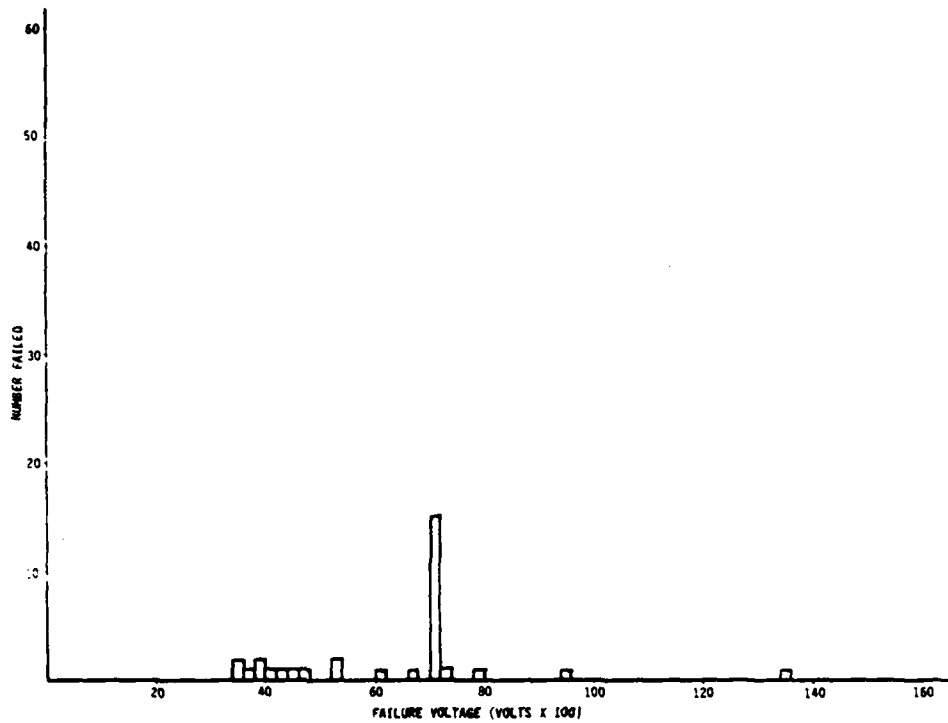


FIGURE 27: FAILURE VOLTAGE PLOT - DTL

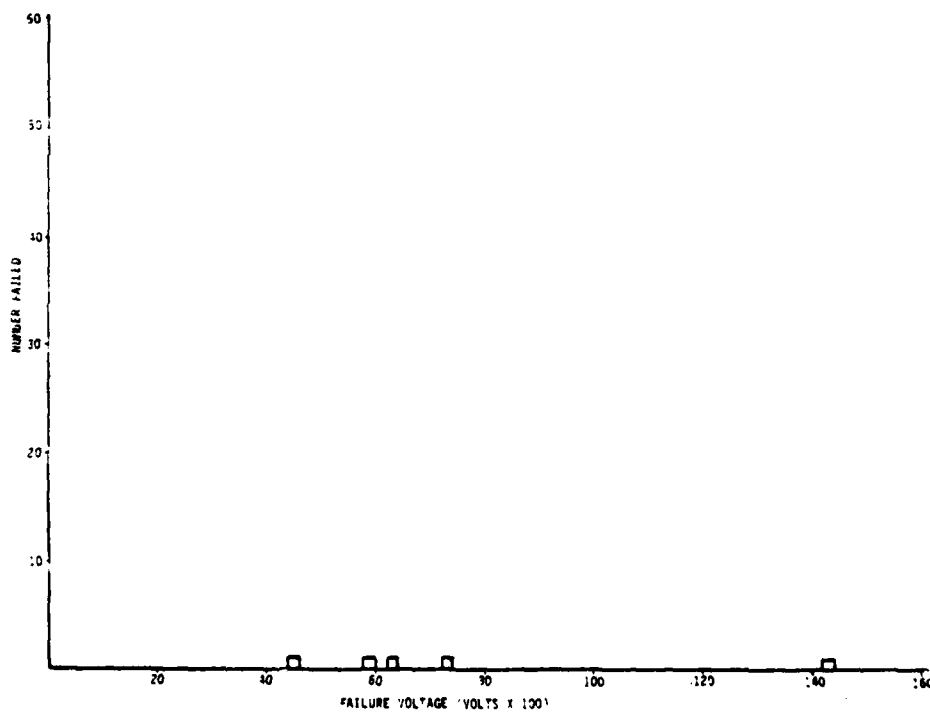


FIGURE 28: FAILURE VOLTAGE PLOT - RTL

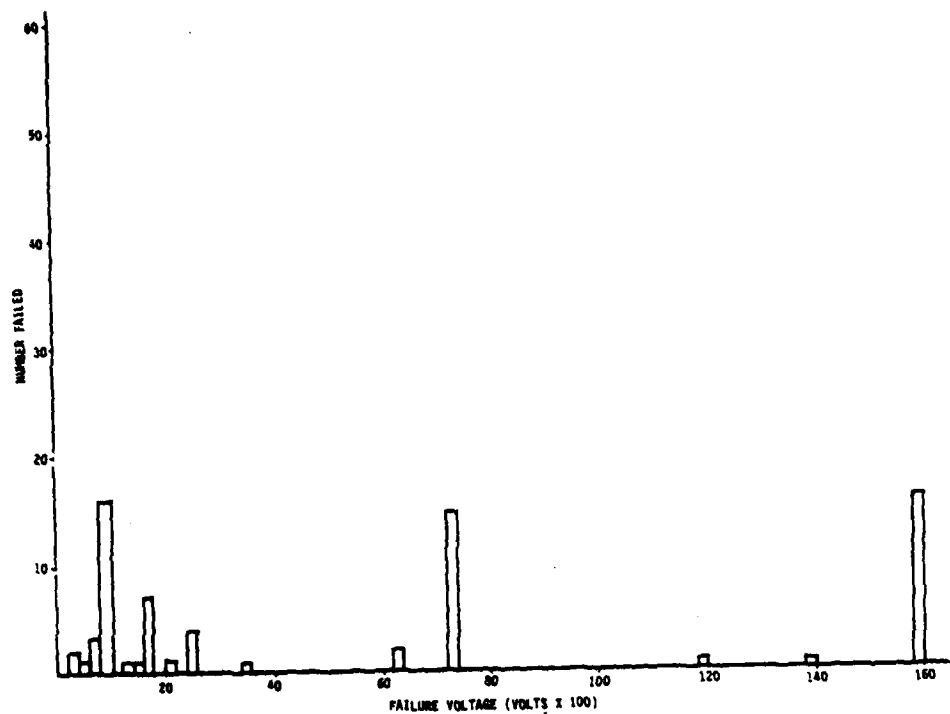


FIGURE 29: FAILURE VOLTAGE PLOT - ECL

SECTION 2

Detailed Device Susceptibility Test Data

DETAILED DEVICE SUSCEPTIBILITY TEST DATA

The data contained herein was collected from many different sources. A large portion was obtained from an extensive data collection effort in which IITRI/RAC personnel visited various facilities to actively solicit ESD susceptibility data on electronic devices. Also, a thorough literature search was conducted which turned up substantial amounts of data already published. In this publication, data exists on approximately 1170 unique electronic devices. A computerized database was designed and implemented by RAC to store and retrieve the data collected. All printouts in this book were produced directly from the database via software generated by the RAC staff.

It is the intent of this detailed data section to present the data in as raw a form as possible, given the fact that it must be fit into a structured system. Where the detailed entries do not adequately explain the test methods or results for a particular data source, an attempt was made to further clarify them in Section 4, Data Sources.

This printout is composed of two parts: Part A Microcircuits and Part B Discrete Electronic Components.

Part A, the Microcircuit section, is broken up by device technology. The ordering of these technologies is as follows:

- CMOS
- NMOS
- PMOS
- MOS (Not otherwise classified)
- CCD
- MNOS
- JFET
- BIFET

BIPOLAR (Linear and Interface)

TTL

STTL

LSTTL

Advanced STTL

LTTL

HTTL

IIL

DTL

RTL

ECL

Part B, the Discrete Electronic Components section, is ordered as follows:

DIODES

TRANSISTORS

THYRISTORS

OPTOELECTRONIC DEVICES

RESISTORS

A description of the fields in this output is given on the following page.

NOTES FOR USE OF DETAILED SUSCEPTIBILITY DATA:

- (1) If you do not know the technology of a device to look up the detailed data, go to the classification listing, look up the part number and then the associated technology.
- (2) There is an inherent bias in the data due to the fact that in many cases only very sensitive parts were tested and the results documented.
- (3) N/R = Not reported

①		②													
BASIC PART NUMBER		DESCRIPTION													
SRC. CODE	SEQ. NUM.	MANUFACTURER	FULL PART NUM.	DATE CODE	TEST DATE	RES. (OHMS)	CAP.	NUMBER PULSES	TEST TYPE	RESULT	VOLTAGE	NUM. DEV.	PIN COMBINATION		
③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮	⑯		

- ① BASIC PART NUMBER. The part number of the device minus prefix and suffix.
- ② DESCRIPTION. Basic function of the device.
- ③ SRC. CODE. Source code - identifies the data source (see Section 4).
- ④ SEQ. NUM. Sequence number - number to identify a particular data entry for a certain source code.
- ⑤ MANUFACTURER. Manufacturer of the device.
- ⑥ FULL PART NUM. Full part number of the device including prefix and suffix.
- ⑦ DATE CODE. Date code as it appeared on the device.
- ⑧ TEST DATE. Date (month and year) the test was performed.
- ⑨ RES. Resistance (in ohms) used in the discharge circuit.
- ⑩ CAP. Capacitance used in the discharge circuit (UF = microfarads, PF = picofarads).
- ⑪ NUMBER PULSES. The total number of pulses applied to the device at the voltage (field no. 14) before failure (if result = fail) or before testing for failure (if result = pass).
- ⑫ TEST TYPE. SS = Step Stress, i.e., the device was stressed in incremental voltages and tested for failure between each one. GN = Go/No-Go, i.e., one voltage level only applied to the device and then tested for failure.
- ⑬ RESULT. Whether the device passed or failed testing at the given test conditions.
- ⑭ VOLTAGE. The voltage for which the result describes (if the device was step-stressed and it failed during stepping, the failure voltage is given).
- ⑮ NUM. DEV. The number of devices which were tested to the same results (i.e., all other fields would have been the same).
- ⑯ PIN COMBINATION. The pin combination tested: function, pin number, and polarity (if known).

REMARK. Any comment which clarifies the test procedures or results.

FAILURE CRITERIA. Criteria used to detect device failure.

SECTION 2A

DETAILED MICROCIRCUIT SUSCEPTIBILITY TEST DATA

TECHNOLOGY: CMOS

BASIC PART NUMBER	DESCRIPTION	SEC. : SEQ. :	DATE :	TEST :	RES. :	NUMBER :	TEST :	NUM. :
CODE : NUM. :	MANUFACTURE :	FULL PART NUM. :	CODE :	DATE :	(OHS) :	CAP. :	PULSES :	VOLTAGE :
							TYPE :	DEV. :
								PIN COMBINATION
100	CONVERTER (D/A N/D)							
030	669 : N/R	DAC100	N/R	1500	100 PF	1	N/R	FAIL : 3000 : 1 : N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%							
14000	GATE , DUAL 3 INPUT NOR							
029	271 : MOTOROLA SEMI	MC14000CL	N/R	1500	100 PF	1	N/R	FAIL : 3301 : 1 : N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.							
029	272 : MOTOROLA SEMI	MC14000CP	N/R	1500	100 PF	1	N/R	FAIL : 2856 : 1 : N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.							
14001A	GATE , QUAD 2 INPUT NOR							
111	1 : MOTOROLA SEMI	MC14001A	N/R	APR 78	1500	150 PF	1	SS : FAIL : 850 : 3 : INPUT A(+) INPUT B(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC							
111	2 : MOTOROLA SEMI	MC14001A	N/R	APR 78	1500	150 PF	1	SS : FAIL : 1450 : 10 : INPUT A(+) INPUT B(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC							
111	3 : MOTOROLA SEMI	MC14001A	N/R	APR 78	1500	150 PF	1	SS : FAIL : 2060 : 10 : INPUT A(+) INPUT B(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC							
111	4 : MOTOROLA SEMI	MC14001A	N/R	APR 78	1500	150 PF	1	SS : PASS : 2060 : 2 : INPUT A(+) INPUT B(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC							
14001B	GATE , QUAD 2 INPUT NOR							
112	1 : MOTOROLA SEMI	MC14001B	N/R	APR 78	1500	150 PF	1	SS : FAIL : 1630 : 3 : INPUT A(+) INPUT B(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC							
112	2 : MOTOROLA SEMI	MC14001B	N/R	APR 78	1500	150 PF	1	SS : FAIL : 2400 : 10 : INPUT A(+) INPUT B(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC							
112	3 : MOTOROLA SEMI	MC14001B	N/R	APR 78	1500	150 PF	1	SS : FAIL : 3100 : 10 : INPUT A(+) INPUT B(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC							
112	4 : MOTOROLA SEMI	MC14001B	N/P	APR 78	1500	150 PF	1	SS : PASS : 3100 : 2 : INPUT A(+) INPUT B(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC							
14013A	FLIP-FLOP , DUAL D							
113	1 : MOTOROLA SEMI	MC14013A	N/R	APR 78	1500	150 PF	1	SS : FAIL : 1200 : 3 : RESET(+) CLOCK(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC							
113	2 : MOTOROLA SEMI	MC14013A	N/R	APR 78	1500	150 PF	1	SS : FAIL : 1560 : 10 : RESET(+) CLOCK(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC							
113	3 : MOTOROLA SEMI	MC14013A	N/R	APR 78	1500	150 PF	1	SS : FAIL : 2150 : 10 : RESET(+) CLOCK(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC							
113	4 : MOTOROLA SEMI	MC14013A	N/R	APR 78	1500	150 PF	1	SS : PASS : 2150 : 2 : RESET(+) CLOCK(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC							
14013B	FLIP-FLOP , DUAL D							
114	1 : MOTOROLA SEMI	MC14013B	N/R	APR 78	1500	150 PF	1	SS : FAIL : 1550 : 3 : DATA(+) RESET(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC							
114	2 : MOTOROLA SEMI	MC14013B	N/R	APR 78	1500	150 PF	1	SS : FAIL : 2100 : 10 : DATA(+) RESET(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC							

TECHNOLOGY: CHOS
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

SRC.: SEQ.: : DATE : TEST : RES.: : NUMBER : TEST : : NUM.:
CODE : KIN.: : MANUFACTURE : : FULL PART NUM. : CODE : DATE : (OMS): CAP. : PULSES : TYPE : RESULT: VOLTAGE: DEV. : PIN COMBINATION

14049 BUFFER/INVERTER , HEX BUFFER/CONVERTER

100 : 4 : MOTOROLA SEMI : N/R : FEB 78 : 1500 : 150 PF : 40 : CN : FAIL : 7000 : 9 : ALL LEADS(+) GATE(-)
FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC
100 : 5 : MOTOROLA SEMI : N/R : FEB 78 : 1500 : 150 PF : 40 : CN : PASS : 7000 : 2 : ALL LEADS(+) GATE(-)
FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC
101 : 1 : MOTOROLA SEMI : N/R : FEB 78 : 1500 : 150 PF : 15 : CN : FAIL : 700 : 2 : GATE(+) ALL LEADS(-)
FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC
101 : 2 : MOTOROLA SEMI : N/R : FEB 78 : 1500 : 150 PF : 40 : CN : PASS : 700 : 10 : GATE(+) ALL LEADS(-)
FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC
102 : 1 : MOTOROLA SEMI : N/R : FEB 78 : 1500 : 150 PF : 5 : CN : FAIL : 900 : 5 : GATE(+) ALL LEADS(-)
FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC
102 : 2 : MOTOROLA SEMI : N/R : FEB 78 : 1500 : 150 PF : 40 : CN : FAIL : 900 : 2 : GATE(+) ALL LEADS(-)
FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC
102 : 3 : MOTOROLA SEMI : N/R : FEB 78 : 1500 : 150 PF : 40 : CN : PASS : 900 : 5 : GATE(+) ALL LEADS(-)
FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC
103 : 1 : MOTOROLA SEMI : N/R : FEB 78 : 1500 : 150 PF : 5 : CN : FAIL : 1100 : 10 : GATE(+) ALL LEADS(-)
FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC
103 : 2 : MOTOROLA SEMI : N/R : FEB 78 : 1500 : 150 PF : 25 : CN : FAIL : 1100 : 1 : GATE(+) ALL LEADS(-)
FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC
103 : 3 : MOTOROLA SEMI : N/R : FEB 78 : 1500 : 150 PF : 40 : CN : PASS : 1100 : 1 : GATE(+) ALL LEADS(-)
FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC
007 : 1 : MOTOROLA SEMI : N/R : N/R : 1500 : 100 PF : 1 : CN : PASS : 400 : 2 : N/R
FAILURE CRITERIA: I1H,I1L,ISS OUT OF SPEC
008 : 1 : MOTOROLA SEMI : N/R : N/R : 1500 : 100 PF : 1 : CN : PASS : 600 : 2 : N/R
FAILURE CRITERIA: I1H,I1L,ISS OUT OF SPEC
009 : 1 : MOTOROLA SEMI : N/R : N/R : 1500 : 100 PF : 1 : CN : PASS : 800 : 2 : N/R
FAILURE CRITERIA: I1H,I1L,ISS OUT OF SPEC
010 : 1 : MOTOROLA SEMI : N/R : N/R : 1500 : 100 PF : 1 : CN : FAIL : 1000 : 2 : N/R
FAILURE CRITERIA: I1H,I1L,ISS OUT OF SPEC AT 25C

14049A BUFFER/INVERTER , HEX BUFFER/CONVERTER

115 : 1 : MOTOROLA SEMI : N/R : APR 78 : 1500 : 150 PF : 1 : SS : FAIL : 790 : 3 : INPUT(+) VCC(-)
FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC
115 : 2 : MOTOROLA SEMI : N/R : APR 78 : 1500 : 150 PF : 1 : SS : FAIL : 900 : 10 : INPUT(+) VCC(-)
FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC
115 : 3 : MOTOROLA SEMI : N/R : APR 78 : 1500 : 150 PF : 1 : SS : FAIL : 980 : 10 : INPUT(+) VCC(-)
FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC
115 : 4 : MOTOROLA SEMI : N/R : APR 78 : 1500 : 150 PF : 1 : SS : PASS : 980 : 2 : INPUT(+) VCC(-)
FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC

14049B BUFFER/INVERTER , HEX BUFFER/CONVERTER

093 : 1 : MOTOROLA SEMI : N/R : FEB 78 : 1500 : 150 PF : 1 : SS : FAIL : 860 : 3 : GATE(+) VSS(-)
FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC
093 : 2 : MOTOROLA SEMI : N/R : FEB 78 : 1500 : 150 PF : 1 : SS : FAIL : 1030 : 10 : GATE(+) VSS(-)
FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC
093 : 4 : MOTOROLA SEMI : N/R : FEB 78 : 1500 : 150 PF : 1 : SS : PASS : 1150 : 2 : GATE(+) VSS(-)
FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC

TECHNOLOGY: CMOS
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

SEQ. :
CODE : MIN. : MANUFACTURER : FULL PART NUM. : CODE : DATE : TEST : RES. : NUMBER : TEST : : MIN. :
PULSES : TYPE : RESULT : VOLTAGE : DEV. : PIN CONFORMATION

140498 BUFFER/INVERTER, HEX BUFFER/CONVERTER (CONTINUED)

116 : 1 : MOTOROLA SEMI : MCI40498 : N/R : APR 78 : 1500 : 150 PF : 1 : SS : FAIL : 730 : 3 : INPUT(+) VCC(-)
FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC
116 : 2 : MOTOROLA SEMI : MCI40498 : N/R : APR 78 : 1500 : 150 PF : 1 : SS : FAIL : 920 : 10 : INPUT(+) VCC(-)
FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC
116 : 3 : MOTOROLA SEMI : MCI40498 : N/R : APR 78 : 1500 : 150 PF : 1 : SS : FAIL : 1070 : 10 : INPUT(+) VCC(-)
FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC
116 : 4 : MOTOROLA SEMI : MCI40498 : N/R : APR 78 : 1500 : 150 PF : 1 : SS : PASS : 1070 : 2 : INPUT(+) VCC(-)
FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC
140 : 3 : MOTOROLA SEMI : N/R : FEB 78 : 1300 : 100 PF : 1 : SS : FAIL : 1150 : 10 : GATE(+) VSS(-)
FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC

14050 BUFFER/INVERTER, HEX BUFFER/CONVERTER

007 : 2 : MOTOROLA SEMI : N/R : N/R : 1500 : 100 PF : 1 : CN : PASS : 400 : 2 : N/R
FAILURE CRITERIA: I1H,I1L,ISS OUT OF SPEC
008 : 2 : MOTOROLA SEMI : N/R : N/R : 1500 : 100 PF : 1 : CN : PASS : 600 : 2 : N/R
FAILURE CRITERIA: I1H,I1L,ISS OUT OF SPEC
009 : 2 : MOTOROLA SEMI : N/R : N/R : 1500 : 100 PF : 1 : CN : FAIL : 800 : 1 : N/R
FAILURE CRITERIA: I1H,I1L,ISS OUT OF SPEC AT 25C
009 : 3 : MOTOROLA SEMI : N/R : N/R : 1500 : 100 PF : 1 : CN : PASS : 800 : 1 : N/R
FAILURE CRITERIA: I1H,I1L,ISS OUT OF SPEC
010 : 2 : MOTOROLA SEMI : N/R : N/R : 1500 : 100 PF : 1 : CN : FAIL : 1000 : 2 : N/R
FAILURE CRITERIA: I1H,I1L,ISS OUT OF SPEC AT 25C

14053B SWITCH, 3KSPDT

117 : 1 : MOTOROLA SEMI : MCI4053B : N/R : APR 78 : 1500 : 150 PF : 1 : SS : FAIL : 1360 : 3 : VEE(+) SELECT A(-)
FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC
117 : 2 : MOTOROLA SEMI : MCI4053B : N/R : APR 78 : 1500 : 150 PF : 1 : SS : FAIL : 2000 : 10 : VEE(+) SELECT A(-)
FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC
117 : 3 : MOTOROLA SEMI : MCI4053B : N/R : APR 78 : 1500 : 150 PF : 1 : SS : FAIL : 2510 : 10 : VEE(+) SELECT A(-)
FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC
117 : 4 : MOTOROLA SEMI : MCI4053B : N/R : APR 78 : 1500 : 150 PF : 1 : SS : PASS : 2510 : 2 : VEE(+) SELECT A(-)
FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC

14059B BUFFER/INVERTER, HEX INVERTER

087 : 1 : MOTOROLA SEMI : MCI4059B : N/R : FEB 78 : 1500 : 150 PF : 1 : SS : FAIL : 700 : 3 : VDD(+) GATE(-)
FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC
087 : 2 : MOTOROLA SEMI : MCI4059B : N/R : FEB 78 : 1500 : 150 PF : 1 : SS : FAIL : 1370 : 10 : VDD(+) GATE(-)
FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC
087 : 3 : MOTOROLA SEMI : MCI4059B : N/R : FEB 78 : 1500 : 150 PF : 1 : SS : FAIL : 1720 : 10 : VDD(+) GATE(-)
FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC
087 : 4 : MOTOROLA SEMI : MCI4059B : N/R : FEB 78 : 1500 : 150 PF : 1 : SS : PASS : 1720 : 2 : VDD(+) GATE(-)
FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC
091 : 3 : MOTOROLA SEMI : N/R : FEB 78 : 1500 : 150 PF : 1 : CN : FAIL : 1125 : 18 : VDD(+) GATE(-)
FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC
091 : 4 : MOTOROLA SEMI : N/R : FEB 78 : 1500 : 150 PF : 1 : CN : PASS : 1125 : 7 : VDD(+) GATE(-)
FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC

[illegible][illegible]

114069B BUF PER/INVERTER, HEX INVERTER

094	:	1	:	MOTOROLA SENI	:	N/R	:	N/R	:	FEB 78	:	1500	:	150 PF	:	1	:	SS	:	FAIL	:	760	:	3	:	VDD(+)	:	GATE(-)	
	:	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC																											
094	:	2	:	MOTOROLA SENI	:	N/R	:	N/R	:	FEB 78	:	1500	:	150 PF	:	1	:	SS	:	FAIL	:	1380	:	10	:	VDD(+)	:	GATE(-)	
	:	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC																											
094	:	3	:	MOTOROLA SENI	:	N/R	:	N/R	:	FEB 78	:	1500	:	150 PF	:	1	:	SS	:	FAIL	:	1800	:	10	:	VDD(+)	:	GATE(-)	
	:	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC																											
094	:	4	:	MOTOROLA SENI	:	N/R	:	N/R	:	FEB 78	:	1500	:	150 PF	:	1	:	SS	:	PASS	:	1800	:	2	:	VDD(+)	:	GATE(-)	
	:	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC																											
095	:	1	:	MOTOROLA SENI	:	N/R	:	N/R	:	FEB 78	:	1500	:	150 PF	:	1	:	GN	:	PASS	:	600	:	25	:	VDD(+)	:	GATE(-)	
	:	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC																											
096	:	1	:	MOTOROLA SENI	:	N/R	:	N/R	:	FEB 78	:	1500	:	150 PF	:	1	:	GN	:	FAIL	:	740	:	7	:	VDD(+)	:	GATE(-)	
	:	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC																											
096	:	2	:	MOTOROLA SENI	:	N/R	:	N/R	:	FEB 78	:	1500	:	150 PF	:	1	:	GN	:	PASS	:	740	:	18	:	VDD(+)	:	GATE(-)	
	:	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC																											
097	:	1	:	MOTOROLA SENI	:	N/R	:	N/R	:	FEB 78	:	1500	:	150 PF	:	1	:	GN	:	FAIL	:	920	:	14	:	VDD(+)	:	GATE(-)	
	:	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC																											
097	:	2	:	MOTOROLA SENI	:	N/R	:	N/R	:	FEB 78	:	1500	:	150 PF	:	1	:	GN	:	PASS	:	920	:	11	:	VDD(+)	:	GATE(-)	
	:	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC																											

14511 DECODER . LATCH/DECODER/DRIVER

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0006 : 18 : MOTOROLA SEMI : MCL4511 : N/R : AUG 78 : 1500 : 100 PF : 1 : SS : FAIL : 3000 : 1 : INPUT(1)(+) OUT(15)(-)
REMARK: DIFFERENT PIN COMB. TESTED AT EACH VOLTAGE STEP FAILURE CRITERIA: I/L, OR ISS OUT OF SPEC AT VDD=15V
0006 : 19 : MOTOROLA SEMI : MCL4511 : N/R : AUG 78 : 1500 : 100 PF : 1 : SS : FAIL : 3500 : 1 : INPUT(3)(+) OUT(13)(-)
REMARK: DIFFERENT PIN COMB. TESTED AT EACH VOLTAGE STEP FAILURE CRITERIA: I/L, OR ISS OUT OF SPEC AT VDD=15V
0006 : 20 : MOTOROLA SEMI : MCL4511 : N/R : AUG 78 : 1500 : 100 PF : 1 : SS : FAIL : 2500 : 1 : INPUT(1)(+) OUT(15)(-)
REMARK: DIFFERENT PIN COMB. TESTED AT EACH VOLTAGE STEP FAILURE CRITERIA: I/L, OR ISS OUT OF SPEC AT VDD=15V

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14519 GATE , QUAD AND/OR SELECT

[illegible]

1802 MICROPROCESSOR, CPU

030 : 348 : N/R : 1602C : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1000 : 1 : N/R

FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

1822 RAM - 1KX1 BIT

383 : 1 : RCA : CDP1822SD : N/R : N/R : 1500 : 100 PF : 1 : SS : FAIL : 2018 : 1 : OUT.(8)(+) APTT(-)
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL. FAILURE CRITERIA: DEGRADATION OF V-I CURVE OR FUNCTIONAL FAILURE.

TECHNOLOGY: CHOS
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

SAC. : SEQ. : : DATE : TEST : RES. : : NUMBER : TEST : : NUM. :
CODE : NUM. : MANUFACTURER : FULL PART NUM. : CODE : DATE : TEST : RES. : : PULSES : TYPE : RESULT : VOLTAGE : DEV. : PIN COMBINATION

1852 SSI/MSI , 8 BIT I/O PORT

030 : 349 : N/R : 1852C : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1000 : 1 : N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%
030 : 350 : N/R : 1852D : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1000 : 1 : N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

201 SWITCH , QUAD SPST

030 : 644 : HARRIS SEMI : H1201 : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 2000 : 1 : N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%
030 : 670 : N/R : DC201 : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1100 : 1 : N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

2255 GATE

029 : 276 : MOTOROLA SEMI : MC2255LM : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 268 : 1 : N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.

331 CONVERTER (D/A A/D) , 10 BIT MULT. DAC

005 : 25 : HYBRID SYSTEMS : DAC331B : N/R : SEP 80 : 1500 : 100 PF : 1 : SS : FAIL : 500 : 1 : INPUT(6)(+) VSS(3)(-)
REMARK: ALSO FAILED 4,5,7-13 TO VDD AT 500 VOLTS FAILURE CRITERIA: PARAMETER SHIFT OF GREATER THAN 10%
005 : 26 : HYBRID SYSTEMS : DAC331B : N/R : SEP 80 : 1500 : 100 PF : 1 : SS : FAIL : 800 : 1 : INPUT(4)(+) VSS(3)(-)
REMARK: ALSO FAILED PINS 5-13 TO VSS AT 800 VOLTS FAILURE CRITERIA: PARAMETER SHIFT OF GREATER THAN 10%
005 : 27 : HYBRID SYSTEMS : DAC331B : N/R : SEP 80 : 1500 : 100 PF : 1 : SS : FAIL : 500 : 1 : INPUT(8)(+) VSS(3)(-)
REMARK: ALSO FAILED PIN 4 TO VDD, 5-7,9-13 TO OUTPUT AT 500 VOLTS FAILURE CRITERIA: PARAMETER SHIFT OF GREATER THAN 10%
005 : 28 : HYBRID SYSTEMS : DAC331B : N/R : SEP 80 : 1500 : 100 PF : 1 : SS : FAIL : 300 : 1 : INPUT(7)(+) VSS(3)(-)
REMARK: ALSO FAILED PINS 8-13 TO VSS AT 300V AND PINS 4,6 TO OUTPUT AT 500 VOLTS FAILURE CRITERIA: PARAMETER SHIFT OF GREATER THAN 10%
005 : 29 : HYBRID SYSTEMS : DAC331B : N/R : SEP 80 : 1500 : 100 PF : 1 : SS : FAIL : 500 : 1 : INPUT(4)(+) OUTPUT(-)
REMARK: ALSO FAILED PINS 5-13 TO OUTPUT AT 500 VOLTS FAILURE CRITERIA: PARAMETER SHIFT OF GREATER THAN 10%
005 : 30 : HYBRID SYSTEMS : DAC331B : N/R : SEP 80 : 1500 : 100 PF : 1 : SS : FAIL : 800 : 1 : INPUT(4)(+) VSS(3)(-)
REMARK: ALSO FAILED PINS 5-13 TO VSS AT 800 VOLTS FAILURE CRITERIA: PARAMETER SHIFT OF GREATER THAN 10%

3400R GATE , QUAD 2 INPUT NOR

123 : 1 : FAIRCHILD SEMI : N/R : APR 78 : 1500 : 150 PF : 1 : SS : FAIL : 1800 : 10 : INPUT B(+) INPUT A(-)
FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC
123 : 2 : FAIRCHILD SEMI : N/R : APR 78 : 1500 : 150 PF : 1 : SS : FAIL : 1450 : 10 : INPUT B(+) INPUT A(-)
FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC
123 : 3 : FAIRCHILD SEMI : N/R : APR 78 : 1500 : 150 PF : 1 : SS : FAIL : 1150 : 3 : INPUT B(+) INPUT A(-)
FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC
123 : 4 : FAIRCHILD SEMI : N/R : APR 78 : 1500 : 150 PF : 1 : SS : PASS : 1800 : 2 : INPUT B(+) INPUT A(-)
FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC

34049B BUFFER/INVERTER , HEX BUFFER/CONVERTER

125 : 1 : FAIRCHILD SEMI : N/R : APR 78 : 1500 : 150 PF : 1 : SS : FAIL : 1100 : 3 : INPUT(+) OUTPUT(-)
FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC
125 : 2 : FAIRCHILD SEMI : N/R : APR 78 : 1500 : 150 PF : 1 : SS : FAIL : 1280 : 10 : INPUT(+) OUTPUT(-)
FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC

TECHNOLOGY: CHOS
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

SBC : SEQ. : : DATE : TEST : RES. : : NUMBER : TEST : : : NUM. :
CODE : NUM. : MANUFACTURER : FULL PART NUM. : CODE : DATE : (OINS) : CAP. : PULSES : TYPE : RESULT : VOLTAGE : DEV. : PIN COMBINATION

340498 BUFFER/INVERTER , HEX BUFFER/CONVERTER

(CONTINUED)

125 : 3 : FAIRCHILD SEMI : N/R : APR 78 : 1500 : 150 PF : 1 : SS : FAIL : 1480 : 10 : INPUT(+) OUTPUT(-)
FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC
125 : 4 : FAIRCHILD SEMI : N/R : APR 78 : 1500 : 150 PF : 1 : SS : PASS : 1480 : 2 : INPUT(+) OUTPUT(-)
FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC

4000 GATE , DUAL 3 INPUT NOR

029 : 257 : RCA : CD4000AC : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 6985 : 1 : N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.
029 : 258 : RCA : CD4000AD : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 8010 : 1 : N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.
029 : 259 : RCA : CD4000AE : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 10533 : 1 : N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.
029 : 268 : HARRIS SEMI : D4000DIH : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 7119 : 1 : N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.
028 : 3 : N/R : TP4000 : N/R : N/R : 1500 : 117 PF : 30 : SS : FAIL : 1000 : 5 : INPUT VCC
FAILURE CRITERIA: INPUT SHORTED TO VCC

4001 GATE , QUAD 2 INPUT NOR

030 : 365 : N/R : 4001UH : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1300 : 1 : N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%
030 : 366 : N/R : 4001UC : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1300 : 1 : N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%
048 : 21 : RCA : CD4001 : N/R : N/R : 100 : 218 PF : 1 : SS : FAIL : 250 : 1 : N/R
FAILURE CRITERIA: GREATER THAN .5UA INPUT AT 10V
118 : 1 : NATIONAL SEMI : CD4001CN : N/R : APR 78 : 1500 : 150 PF : 1 : SS : FAIL : 1220 : 3 : VSS(+) INPUT A(-)
FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC
118 : 2 : NATIONAL SEMI : CD4001CN : N/R : APR 78 : 1500 : 150 PF : 1 : SS : FAIL : 1530 : 10 : VSS(+) INPUT A(-)
FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC
118 : 3 : NATIONAL SEMI : CD4001CN : N/R : APR 78 : 1500 : 150 PF : 1 : SS : FAIL : 1750 : 10 : VSS(+) INPUT A(-)
FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC
118 : 4 : NATIONAL SEMI : CD4001CN : N/R : APR 78 : 1500 : 150 PF : 1 : SS : PASS : 1750 : 2 : VSS(+) INPUT A(-)
FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC
244 : 1 : N/R : : N/R : 7630 : N/R : 100 PF : 1 : SS : FAIL : 950 : 1 : INPUT(+) OUTPUT(-)
FAILURE CRITERIA: D.C. PARAMETER OUT OF SPEC.
244 : 2 : N/R : : N/R : 7630 : N/R : 100 PF : 1 : SS : PASS : 1000 : 13 : INPUT(+) OUTPUT(-)
FAILURE CRITERIA: D.C. PARAMETER OUT OF SPEC.
245 : 24 : N/R : : N/R : 7630 : N/R : .1 UF : 1 : SS : FAIL : 66 : 15 : VSS(+) INPUT(-)
REMARK: FAILURE VOLTAGE IS AN AVERAGE OF 15 DEVICES. FAILURE CRITERIA: D.C. PARAMETER OUT OF SPEC.

4001A GATE , QUAD 2 INPUT NOR

104 : 1 : RCA : CD4001AE : N/R : APR 78 : 1500 : 150 PF : 1 : SS : FAIL : 580 : 3 : INPUT B(+) INPUT A(-)
FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC
104 : 2 : RCA : CD4001AE : N/R : APR 78 : 1500 : 150 PF : 1 : SS : FAIL : 780 : 10 : INPUT B(+) INPUT A(-)
FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC
104 : 3 : RCA : CD4001AE : N/R : APR 78 : 1500 : 150 PF : 1 : SS : FAIL : 980 : 10 : INPUT B(+) INPUT A(-)
FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC

TECHNOLOGY: CHOS
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

SEC. : SEQ. :	DATE :	TEST :	RES. :	NUMBER :	TEST :	NUM. :
CODE : NUM. :	MANUFACTURER :	FULL PART NUM. :	CODE :	DATE :	TEST :	RES. :
4001A	GATE , QUAD 2 INPUT NOR	REMARK : FAILURE VOLTAGE GIVEN IF APPROXIMATE VALUE ONLY.	CAP. :	PULSES :	TYPE :	VOLTAGE : DEV. :
						PIN COMBINATION
155	1 : N/R	N/R	500	500 PF	1 : SS	FAIL : 300 : 1 : N/R
155	2 : N/R	N/R	500	500 PF	1 : SS	FAIL : 400 : 1 : N/R
293	1 : RCA	REMARK : FAILURE VOLTAGE GIVEN IS APPROXIMATE VALUE ONLY.				
		FAILURE CRITERIA: IIL OUT OF SPEC.				
294	1 : RCA	FAILURE CRITERIA: IIL OUT OF SPEC.				
295	1 : RCA	FAILURE CRITERIA: IIL OUT OF SPEC.				
296	1 : RCA	FAILURE CRITERIA: IIL OUT OF SPEC.				
297	1 : RCA	FAILURE CRITERIA: IIL OUT OF SPEC.				
297	2 : RCA	FAILURE CRITERIA: IIL OUT OF SPEC.				
297	3 : RCA	FAILURE CRITERIA: IIL OUT OF SPEC.				
297	4 : RCA	FAILURE CRITERIA: IIL OUT OF SPEC.				
297	5 : RCA	FAILURE CRITERIA: IIL OUT OF SPEC.				
297	6 : RCA	FAILURE CRITERIA: IIL OUT OF SPEC.				
297	7 : RCA	FAILURE CRITERIA: IIL OUT OF SPEC.				
299	1 : RCA	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.				
300	1 : RCA	FAILURE CRITERIA: IIL OUT OF SPEC.				
301	1 : RCA	FAILURE CRITERIA: IIL OUT OF SPEC.				
302	1 : RCA	FAILURE CRITERIA: IIL OUT OF SPEC.				
303	1 : RCA	FAILURE CRITERIA: IIL OUT OF SPEC.				
304	1 : RCA	FAILURE CRITERIA: IIL OUT OF SPEC.				
304	2 : RCA	FAILURE CRITERIA: IIL OUT OF SPEC.				
304	3 : RCA	FAILURE CRITERIA: IIL OUT OF SPEC.				
304	4 : RCA	FAILURE CRITERIA: IIL OUT OF SPEC.				
305	1 : RCA	FAILURE CRITERIA: IIL OUT OF SPEC.				
306	1 : RCA	FAILURE CRITERIA: IIL OUT OF SPEC.				

TECHNOLOGY: CHOS
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

SEC. : SEQ. :	MANUFACTURER	FULL PART NUM.	DATE : TEST : RES. :	CAP.	PULSES :	TEST :	NUM. :	VOLTAGE :	DEV. :	PIN COMBINATION
CODE : NUM. :			DATE : CODE :	(ORIS):		TYPE :				
4001A	GATE, QUAD 2 INPUT NOR									
307	1 : RCA	CD4001A	N/R : N/R : 1500 :	100 PF :	1 :	GN : FAIL :	850 :	2 :	VDD(14)(+)	IN.(1)(-)
	FAILURE CRITERIA: IIL OUT OF SPEC.									
307	2 : RCA	CD4001A	N/R : N/R : 1500 :	100 PF :	200 :	GN : PASS :	850 :	3 :	VDD(14)(+)	IN.(1)(-)
	FAILURE CRITERIA: IIL OUT OF SPEC.									
307	3 : RCA	CD4001A	N/R : N/R : 1500 :	100 PF :	2 :	GN : FAIL :	850 :	1 :	VDD(14)(+)	IN.(1)(-)
	FAILURE CRITERIA: IIL OUT OF SPEC.									
307	4 : RCA	CD4001A	N/R : N/R : 1500 :	100 PF :	200 :	GN : PASS :	850 :	1 :	VDD(14)(+)	IN.(1)(-)
	FAILURE CRITERIA: IIL OUT OF SPEC.									
308	1 : RCA	CD4001A	N/R : N/R : 1500 :	100 PF :	1 :	GN : FAIL :	865 :	6 :	VDD(14)(+)	IN.(1)(-)
	FAILURE CRITERIA: IIL OUT OF SPEC.									
308	2 : RCA	CD4001A	N/R : N/R : 1500 :	100 PF :	200 :	GN : PASS :	865 :	3 :	VDD(14)(+)	IN.(1)(-)
	FAILURE CRITERIA: IIL OUT OF SPEC.									
308	4 : RCA	CD4001A	N/R : N/R : 1500 :	100 PF :	1 :	GN : FAIL :	865 :	2 :	VDD(14)(+)	IN.(1)(-)
	FAILURE CRITERIA: IIL OUT OF SPEC.									
308	5 : RCA	CD4001A	N/R : N/R : 1500 :	100 PF :	1 :	GN : PASS :	865 :	8 :	VDD(14)(+)	IN.(1)(-)
	FAILURE CRITERIA: IIL OUT OF SPEC.									
309	1 : RCA	CD4001A	N/R : N/R : 1500 :	100 PF :	1 :	GN : FAIL :	870 :	1 :	VDD(14)(+)	IN.(1)(-)
	FAILURE CRITERIA: IIL OUT OF SPEC.									
310	1 : RCA	CD4001A	N/R : N/R : 1500 :	100 PF :	4 :	GN : FAIL :	875 :	1 :	VDD(14)(+)	IN.(1)(-)
	FAILURE CRITERIA: IIL OUT OF SPEC.									
310	2 : RCA	CD4001A	N/R : N/R : 1500 :	100 PF :	200 :	GN : PASS :	875 :	1 :	VDD(14)(+)	IN.(1)(-)
	FAILURE CRITERIA: IIL OUT OF SPEC.									
311	1 : RCA	CD4001A	N/R : N/R : 1500 :	100 PF :	25 :	GN : FAIL :	880 :	1 :	VDD(14)(+)	IN.(1)(-)
	FAILURE CRITERIA: IIL OUT OF SPEC.									
312	1 : RCA	CD4001A	N/R : N/R : 1500 :	100 PF :	200 :	GN : PASS :	890 :	1 :	VDD(14)(+)	IN.(1)(-)
	FAILURE CRITERIA: IIL OUT OF SPEC.									
313	1 : RCA	CD4001A	N/R : N/R : 1500 :	100 PF :	1 :	GN : FAIL :	898 :	7 :	VDD(14)(+)	IN.(1)(-)
	FAILURE CRITERIA: IIL OUT OF SPEC.									
313	2 : RCA	CD4001A	N/R : N/R : 1500 :	100 PF :	2 :	GN : FAIL :	898 :	1 :	VDD(14)(+)	IN.(1)(-)
	FAILURE CRITERIA: IIL OUT OF SPEC.									
313	3 : RCA	CD4001A	N/R : N/R : 1500 :	100 PF :	200 :	GN : PASS :	898 :	2 :	VDD(14)(+)	IN.(1)(-)
	FAILURE CRITERIA: IIL OUT OF SPEC.									
313	4 : RCA	CD4001A	N/R : N/R : 1500 :	100 PF :	1 :	GN : FAIL :	898 :	6 :	VDD(14)(+)	IN.(1)(-)
	FAILURE CRITERIA: IIL OUT OF SPEC.									
313	5 : RCA	CD4001A	N/R : N/R : 1500 :	100 PF :	1 :	GN : PASS :	898 :	4 :	VDD(14)(+)	IN.(1)(-)
	FAILURE CRITERIA: IIL OUT OF SPEC.									
314	1 : RCA	CD4001A	N/R : N/R : 1500 :	100 PF :	1 :	GN : FAIL :	900 :	1 :	VDD(14)(+)	IN.(1)(-)
	FAILURE CRITERIA: IIL OUT OF SPEC.									
314	2 : RCA	CD4001A	N/R : N/R : 1500 :	100 PF :	200 :	GN : PASS :	900 :	1 :	VDD(14)(+)	IN.(1)(-)
	FAILURE CRITERIA: IIL OUT OF SPEC.									
315	1 : RCA	CD4001A	N/R : N/R : 1500 :	100 PF :	200 :	GN : PASS :	910 :	1 :	VDD(14)(+)	IN.(1)(-)
	FAILURE CRITERIA: IIL OUT OF SPEC.									
316	1 : RCA	CD4001A	N/R : N/R : 1500 :	100 PF :	3 :	GN : FAIL :	915 :	1 :	VDD(14)(+)	IN.(1)(-)
	FAILURE CRITERIA: IIL OUT OF SPEC.									
316	2 : RCA	CD4001A	N/R : N/R : 1500 :	100 PF :	10 :	GN : FAIL :	915 :	1 :	VDD(14)(+)	IN.(1)(-)
	FAILURE CRITERIA: IIL OUT OF SPEC.									
316	3 : RCA	CD4001A	N/R : N/R : 1500 :	100 PF :	200 :	GN : PASS :	915 :	3 :	VDD(14)(+)	IN.(1)(-)
	FAILURE CRITERIA: IIL OUT OF SPEC.									

[illegible]60[illegible]

3864 : 22 : N/R : N/R : 8009 : N/R : 100D : 200 PF : 1 : SS : FAIL : 900 : 1 : EACH PIN(+)
REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 1060V.
FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.

BASIC PART NUMBER	DESCRIPTION
100-000000	...
100-000001	...
100-000002	...
100-000003	...
100-000004	...
100-000005	...
100-000006	...
100-000007	...
100-000008	...
100-000009	...
100-000010	...
100-000011	...
100-000012	...
100-000013	...
100-000014	...
100-000015	...
100-000016	...
100-000017	...
100-000018	...
100-000019	...
100-000020	...
100-000021	...
100-000022	...
100-000023	...
100-000024	...
100-000025	...
100-000026	...
100-000027	...
100-000028	...
100-000029	...
100-000030	...
100-000031	...
100-000032	...
100-000033	...
100-000034	...
100-000035	...
100-000036	...
100-000037	...
100-000038	...
100-000039	...
100-000040	...
100-000041	...
100-000042	...
100-000043	...
100-000044	...
100-000045	...
100-000046	...
100-000047	...
100-000048	...
100-000049	...
100-000050	...
100-000051	...
100-000052	...
100-000053	...
100-000054	...
100-000055	...
100-000056	...
100-000057	...
100-000058	...
100-000059	...
100-000060	...
100-000061	...
100-000062	...
100-000063	...
100-000064	...
100-000065	...
100-000066	...
100-000067	...
100-000068	...
100-000069	...
100-000070	...
100-000071	...
100-000072	...
100-000073	...
100-000074	...
100-000075	...
100-000076	...
100-000077	...
100-000078	...
100-000079	...
100-000080	...
100-000081	...
100-000082	...
100-000083	...
100-000084	...
100-000085	...
100-000086	...
100-000087	...
100-000088	...
100-000089	...
100-000090	...
100-000091	...
100-000092	...
100-000093	...
100-000094	...
100-000095	...
100-000096	...
100-000097	...
100-000098	...
100-000099	...
100-000100	...

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TECHNOLOGY: CMOS
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

SEC. : SEQ. : CODE : MEN. :	MANUFACTURER	FULL PART NUMBER	DATE : TEST : RES. : : CODE : DATE : (OHMS) :	CAP. : :	NUMBER : TEST : : PULSES : TYPE : RESULT : VOLTAGE : DEV. :	MIN. : :	PIN COMINATION
4011	GATE , QUAD 2 INPUT NAND						
141 : 5 :	RCA	N/R	N/R : MAY 75 : 560 :	100 PF :	1 : SS : FAIL :	3000 :	1 : INPUT(+) OUTPUT(-)
141 : 6 :	RCA	N/R	N/R : MAY 75 : 560 :	100 PF :	1 : SS : FAIL :	1000 :	1 : OUTPUT(+) INPUT(-)
141 : 7 :	RCA	N/R	N/R : MAY 75 : 560 :	100 PF :	1 : SS : FAIL :	1500 :	1 : VDD(+) OUTPUT(-)
141 : 8 :	RCA	N/R	N/R : MAY 75 : 560 :	100 PF :	1 : SS : FAIL :	2500 :	1 : OUTPUT(+) VDD(-)
141 : 9 :	RCA	N/R	N/R : MAY 75 : 560 :	100 PF :	1 : SS : FAIL :	2000 :	1 : VSS(+) OUTPUT(-)
141 : 10 :	RCA	N/R	N/R : MAY 75 : 560 :	100 PF :	1 : SS : FAIL :	2000 :	1 : OUTPUT(+) VSS(-)
141 : 11 :	RCA	N/R	N/R : MAY 75 : 560 :	100 PF :	1 : SS : FAIL :	2000 :	1 : VDD(+) VSS(-)
141 : 12 :	RCA	N/R	N/R : MAY 75 : 560 :	100 PF :	1 : SS : FAIL :	5000 :	1 : VSS(+) VDD(-)
141 : 13 :	MOTOROLA SEMI	N/R	N/R : MAY 75 : 560 :	100 PF :	1 : SS : FAIL :	1000 :	1 : VDD(+) INPUT(-)
141 : 14 :	MOTOROLA SEMI	N/R	N/R : MAY 75 : 560 :	100 PF :	1 : SS : FAIL :	4000 :	1 : INPUT(+) VDD(-)
141 : 15 :	MOTOROLA SEMI	N/R	N/R : MAY 75 : 560 :	100 PF :	1 : SS : FAIL :	1000 :	1 : VSS(+) INPUT(-)
141 : 16 :	MOTOROLA SEMI	N/R	N/R : MAY 75 : 560 :	100 PF :	1 : SS : FAIL :	2000 :	1 : INPUT(+) VSS(-)
141 : 17 :	MOTOROLA SEMI	N/R	N/R : MAY 75 : 560 :	100 PF :	1 : SS : FAIL :	2000 :	1 : INPUT(+) OUTPUT(-)
141 : 18 :	MOTOROLA SEMI	N/R	N/R : MAY 75 : 560 :	100 PF :	1 : SS : FAIL :	500 :	1 : OUTPUT(+) INPUT(-)
141 : 19 :	MOTOROLA SEMI	N/R	N/R : MAY 75 : 560 :	100 PF :	1 : SS : FAIL :	2000 :	1 : VDD(+) OUTPUT(-)
141 : 20 :	MOTOROLA SEMI	N/R	N/R : MAY 75 : 560 :	100 PF :	1 : SS : FAIL :	5000 :	1 : OUTPUT(+) VDD(-)
141 : 21 :	MOTOROLA SEMI	N/R	N/R : MAY 75 : 560 :	100 PF :	1 : SS : FAIL :	4500 :	1 : VSS(+) OUTPUT(-)
141 : 22 :	MOTOROLA SEMI	N/R	N/R : MAY 75 : 560 :	100 PF :	1 : SS : FAIL :	3000 :	1 : OUTPUT(+) VSS(-)
141 : 23 :	MOTOROLA SEMI	N/R	N/R : MAY 75 : 560 :	100 PF :	1 : SS : FAIL :	4000 :	1 : VDD(+) VSS(-)
141 : 24 :	MOTOROLA SEMI	N/R	N/R : MAY 75 : 560 :	100 PF :	1 : SS : FAIL :	5000 :	1 : VSS(+) VDD(-)
141 : 25 :	NATIONAL SEMI	N/R	N/R : MAY 75 : 560 :	100 PF :	1 : SS : FAIL :	500 :	1 : VDD(+) INPUT(-)
141 : 26 :	NATIONAL SEMI	N/R	N/R : MAY 75 : 560 :	100 PF :	1 : SS : FAIL :	5000 :	1 : INPUT(+) VDD(-)
141 : 27 :	NATIONAL SEMI	N/R	N/R : MAY 75 : 560 :	100 PF :	1 : SS : FAIL :	500 :	1 : VSS(+) INPUT(-)
141 : 28 :	NATIONAL SEMI	N/R	N/R : MAY 75 : 560 :	100 PF :	1 : SS : FAIL :	2500 :	1 : INPUT(+) VSS(-)
141 : 29 :	NATIONAL SEMI	N/R	N/R : MAY 75 : 560 :	100 PF :	1 : SS : FAIL :	2500 :	1 : INPUT(+) OUTPUT(-)
141 : 30 :	NATIONAL SEMI	N/R	N/R : MAY 75 : 560 :	100 PF :	1 : SS : FAIL :	500 :	1 : OUTPUT(+) INPUT(-)
141 : 31 :	NATIONAL SEMI	N/R	N/R : MAY 75 : 560 :	100 PF :	1 : SS : FAIL :	3000 :	1 : VDD(+) OUTPUT(-)
141 : 32 :	NATIONAL SEMI	N/R	N/R : MAY 75 : 560 :	100 PF :	1 : SS : FAIL :	1500 :	1 : OUTPUT(+) VDD(-)
141 : 33 :	NATIONAL SEMI	N/R	N/R : MAY 75 : 560 :	100 PF :	1 : SS : FAIL :	5000 :	1 : VSS(+) OUTPUT(-)
141 : 34 :	NATIONAL SEMI	N/R	N/R : MAY 75 : 560 :	100 PF :	1 : SS : FAIL :	2000 :	1 : OUTPUT(+) VSS(-)
141 : 35 :	NATIONAL SEMI	N/R	N/R : MAY 75 : 560 :	100 PF :	1 : SS : FAIL :	1000 :	1 : VDD(+) VSS(-)
141 : 36 :	NATIONAL SEMI	N/R	N/R : MAY 75 : 560 :	100 PF :	1 : SS : FAIL :	5000 :	1 : VSS(+) VDD(-)
142 : 1 :	N/R	N/R	N/R : MAY 75 : 560 :	100 PF :	1 : SS : FAIL :	500 :	1 : VDD(+) INPUT(-)
142 : 2 :	N/R	N/R	N/R : MAY 75 : 560 :	100 PF :	1 : SS : FAIL :	1000 :	1 : INPUT(+) VDD(-)
142 : 3 :	N/R	N/R	N/R : MAY 75 : 560 :	100 PF :	1 : SS : FAIL :	1000 :	1 : VSS(+) INPUT(-)
142 : 4 :	N/R	N/R	N/R : MAY 75 : 560 :	100 PF :	1 : SS : FAIL :	1000 :	1 : INPUT(+) VSS(-)
142 : 5 :	N/R	N/R	N/R : MAY 75 : 560 :	100 PF :	1 : SS : FAIL :	1000 :	1 : INPUT(+) OUTPUT(-)
142 : 6 :	N/R	N/R	N/R : MAY 75 : 560 :	100 PF :	1 : SS : FAIL :	1000 :	1 : OUTPUT(+) INPUT(-)
142 : 7 :	N/R	N/R	N/R : MAY 75 : 560 :	100 PF :	1 : SS : FAIL :	4000 :	1 : VDD(+) OUTPUT(-)
142 : 8 :	N/R	N/R	N/R : MAY 75 : 560 :	100 PF :	1 : SS : FAIL :	4500 :	1 : OUTPUT(+) VDD(-)
142 : 9 :	N/R	N/R	N/R : MAY 75 : 560 :	100 PF :	1 : SS : FAIL :	5000 :	1 : VSS(+) OUTPUT(-)
142 : 10 :	N/R	N/R	N/R : MAY 75 : 560 :	100 PF :	1 : SS : FAIL :	2000 :	1 : OUTPUT(+) VSS(-)
142 : 11 :	N/R	N/R	N/R : MAY 75 : 560 :	100 PF :	1 : SS : FAIL :	4000 :	1 : VDD(+) VSS(-)
142 : 12 :	N/R	N/R	N/R : MAY 75 : 560 :	100 PF :	1 : SS : FAIL :	5000 :	1 : VSS(+) VDD(-)
304 : 21 :	N/R	N/R	N/R : 774 : N/R : 1000 :	200 PF :	1 : SS : FAIL :	500 :	1 : EACH PIN(+)

REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 1070V.

FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.

304 : 23 : N/R : 7815 : N/R : 1000 : 200 PF : 1 : SS : FAIL : 500 : 1 : EACH PIN(+)

REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 800V.

FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.

BASIC PART NUMBER	DESCRIPTION
0000000000	Blank
0000000001	Blank
0000000002	Blank
0000000003	Blank
0000000004	Blank
0000000005	Blank
0000000006	Blank
0000000007	Blank
0000000008	Blank
0000000009	Blank
0000000010	Blank
0000000011	Blank
0000000012	Blank
0000000013	Blank
0000000014	Blank
0000000015	Blank
0000000016	Blank
0000000017	Blank
0000000018	Blank
0000000019	Blank
0000000020	Blank
0000000021	Blank
0000000022	Blank
0000000023	Blank
0000000024	Blank
0000000025	Blank
0000000026	Blank
0000000027	Blank
0000000028	Blank
0000000029	Blank
0000000030	Blank
0000000031	Blank
0000000032	Blank
0000000033	Blank
0000000034	Blank
0000000035	Blank
0000000036	Blank
0000000037	Blank
0000000038	Blank
0000000039	Blank
0000000040	Blank
0000000041	Blank
0000000042	Blank
0000000043	Blank
0000000044	Blank
0000000045	Blank
0000000046	Blank
0000000047	Blank
0000000048	Blank
0000000049	Blank
0000000050	Blank
0000000051	Blank
0000000052	Blank
0000000053	Blank
0000000054	Blank
0000000055	Blank
0000000056	Blank
0000000057	Blank
0000000058	Blank
0000000059	Blank
0000000060	Blank
0000000061	Blank
0000000062	Blank
0000000063	Blank
0000000064	Blank
0000000065	Blank
0000000066	Blank
0000000067	Blank
0000000068	Blank
0000000069	Blank
0000000070	Blank
0000000071	Blank
0000000072	Blank
0000000073	Blank
0000000074	Blank
0000000075	Blank
0000000076	Blank
0000000077	Blank
0000000078	Blank
0000000079	Blank
0000000080	Blank
0000000081	Blank
0000000082	Blank
0000000083	Blank
0000000084	Blank
0000000085	Blank
0000000086	Blank
0000000087	Blank
0000000088	Blank
0000000089	Blank
0000000090	Blank
0000000091	Blank
0000000092	Blank
0000000093	Blank
0000000094	Blank
0000000095	Blank
0000000096	Blank
0000000097	Blank
0000000098	Blank
0000000099	Blank
0000000100	Blank
0000000101	Blank
0000000102	Blank
0000000103	Blank
0000000104	Blank
0000000105	Blank
0000000106	Blank
0000000107	Blank
0000000108	Blank
0000000109	Blank
0000000110	Blank
0000000111	Blank
0000000112	Blank
0000000113	Blank
0000000114	Blank
0000000115	Blank
0000000116	Blank
0000000117	Blank
0000000118	Blank
0000000119	Blank
0000000120	Blank
0000000121	Blank
0000000122	Blank
0000000123	Blank
0000000124	Blank
0000000125	Blank
0000000126	Blank
0000000127	Blank
0000000128	Blank
0000000129	Blank
0000000130	Blank
0000000131	Blank
0000000132	Blank
0000000133	Blank
0000000134	Blank
0000000135	Blank
0000000136	Blank
0000000137	Blank
0000000138	Blank
0000000139	Blank
0000000140	Blank
0000000141	Blank
0000000142	Blank
0000000143	Blank
0000000144	Blank
0000000145	Blank
0000000146	Blank
0000000147	Blank
0000000148	Blank
0000000149	Blank
00000	

: SEC.: SEQ.:	:	:
MANUFACTURER	: DATE : TEST :	: NUMBER : TEST :
FULL PART NUM.	: CODE : DATE :	: CAP. : TYPE RESULT:
PIN COMBINATION	:	VOLTAGE: DEV.:

(CONTINUED)

394 : 24 : N/R : N/R : 7715 : N/R : 1000 : 200 PF : 1 : SS : FAIL : 800 : 1 : EACH PIN(+)
REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 3760V.

FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.

384 : 25 : N/R : N/R : 7605 : N/R : 1000 : 200 PF : 1 : SS : FAIL : 2300 : 1 : EACH PIN(+)
REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 3444V.

FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.

394 : 26 : N/R : N/R : 7727 : N/R : 1000 : 200 PF : 1 : SS : FAIL : 2900 : 1 : EACH PIN(+)
REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 5200V.

FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.

384 : 27 : N/R : N/R : 7828 : N/R : 1000 : 200 PF : 1 : SS : FAIL : 500 : 1 : EACH PIN(+)
REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 2450V.

FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.

[illegible]

REMARK: INPUTS STRESSED WITH NO PINS GROUNDED. CAPACITANCE OF PACKAGE TO GND. IS 3.5PF

4011A GATE , QUAD 2 INPUT NAND

163 : 1 : RCA : CD4011A : N/R : 610 : 100 PF : 1 : SS : PASS : 4000 : 1 : VSS(7)(+) :
WATSON CRYSTAL DATA : STINGRAY WATSON

FAILURE CRITERIA: FUNCTIONAL FAILURE		FAILURE CRITERIA: PHYSICAL FAILURE	
163	2 : RCA	N/R : N/R : 610 : 100 PF : 1 : SS : FAIL : 2500 : 1 : VSS(7)(-)	1 : N/R : N/R : 610 : 100 PF : 1 : SS : FAIL : 2500 : 1 : VSS(7)(-)
REMARK: INVESTIGATION ACCOMPLISHED AT 2000U			
EATING: CUMECTA. PHYSICAL: EATING			

[illegible]

```

163      4 : RCA                                CD4011A
STATUS: DECOMPOSITION OCCURRED AT 1500V.
FAILURE CRITERIA: FUSION/SHORT FAILURE
      N/R : N/R : 610 : 100 PF :
1 : SS : FAIL : 4000 : 1 : INPUT(1)(-)
PAYMENT: CONTRACT: MINIMUMALLY:
ITEM 4000 : PAY/CHG: 1500V: 1500V:

```

```

163 : 5 : ICA : CD4011A : N/R : N/R : 610 : 100 PF : 1 : SS : FAIL : 4000 : 1 : OUTPUT(A)(+)
REMARKS : DEGRADATION OCCURRED AT 150W.
FAILURE CRITERIA : FUNCTIONAL FAILURE
EATING'S PERFORMANCE : SIGNIFICANTLY IMPROVED

```

163	:	6 : RCA	:	N/R : N/R	:	610	:	100 PF	:	1 : SS	:	FAIL :	3500	:	1 : OUTPUT(4)(-)
FAILURE CRITERIA: FUNCTIONAL FAILURE															

163	:	7	:	EA	:	N/R	:	N/R	:	610	:	100	PF	:	1	:	SS	:	FAIL	:	1500	:	1	:	VDD(14)(+)
FAILURE CRITERIA: FUNCTIONAL FAILURE																									

```

163      8 : RCA
FAILURE CRITERIA: FUNCTIONAL FAILURE
          : CDA01LA
          : N/R : N/R : 610 : 100 PF : 1 : SS : PASS : 4000 : 1 : VDD(14)(-)

```

FAILURE CRITERIA : FUNCTIONAL FAILURE

GATE , QUAD 2 INPUT NAND

030 : 376 : N/R : N/R : N/R : 100 PF : 1 : N/R : FAIL : 1300 : 1 :
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

0330 : 377 : N/R : 40 IBC : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1300 : 1 :
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

GATE 4 INPUT HAND

029 : 269 : 182LK : INS401281 : N/R : N/R : 100 PF : 1 : M/P : PATY : 2A28 : 1 :

REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND MUNSCH MODEL.

1

TECHNOLOGY: CMOS
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION	SIC. : SEQ. : CODE : NUM. :	MANUFACTURE	FULL PART NUM. :	DATE : TEST : CODE : DATE :	RES. : (OHMS) :	CAP. : PULSES :	TYPE : RESULT :	VOLTAGE : DEV. :	NUM. : PIN CONFIRMATION
4012B	GATE, QUAD 4 INPUT NAND									
030	380 : N/R FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10% 4012BC									
030	381 : N/R FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%									
4013	FLIP-FLOP, DUAL D									
124	1 : FAIRCHILD SEMI FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC									
124	2 : FAIRCHILD SEMI FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC									
124	3 : FAIRCHILD SEMI FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC									
124	4 : FAIRCHILD SEMI FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC									
165	1 : FAIRCHILD SEMI REMARK: BREADDOWN VOLTAGE CHARACTERISTICS WERE DEGRADED.									
4013A	FLIP-FLOP, DUAL "D"									
106	1 : RCA FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC									
106	2 : RCA FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC									
106	3 : RCA FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC									
106	4 : RCA FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC									
164	1 : RCA FAILURE CRITERIA: FUNCTIONAL FAILURE									
164	2 : RCA FAILURE CRITERIA: FUNCTIONAL FAILURE									
164	3 : RCA REMARK: DEGRADATION OCCURRED AT 1000V.									
164	4 : RCA FAILURE CRITERIA: FUNCTIONAL FAILURE									
164	5 : RCA FAILURE CRITERIA: FUNCTIONAL FAILURE									
164	6 : RCA REMARK: DEGRADATION OCCURRED AT 2000V									
164	7 : RCA FAILURE CRITERIA: FUNCTIONAL FAILURE									
164	8 : RCA FAILURE CRITERIA: FUNCTIONAL FAILURE									
026	5 : RCA REMARK: VOLTAGE IS AN AVERAGE OF 4 DEVICES									
026	35 : RCA REMARK: VOLTAGE IS AN AVERAGE OF 4 DEVICES									

TECHNOLOGY: CMOS
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION	SERIAL : SEQ. :	MANUFACTURER	DATE : TEST :	RES. :	NUMBER : TEST :	TYPE : RESULT :	VOLTAGE : DEV. :	PIN COMBINATION
40138	FLIP-FLOP, DUAL D	CODE : MIN. :		FULL PART NUM. :	CODE : (OBS):	CAP. :	PULSES :		
030	382 : N/R : 40138			N/R : N/R : 1500 : 100 PF :		1 : N/R : FAIL :	1000 :	1 :	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%								
030	383 : N/R : 40138C			N/R : N/R : 1500 : 100 PF :		1 : N/R : FAIL :	1000 :	1 :	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%								
107	1 : RCA : CD40138E			N/R : APR 78 : 1500 : 150 PF :		1 : SS : FAIL :	860 :	3 :	SET(+) DATA(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC								
107	2 : RCA : CD40138E			N/R : APR 78 : 1500 : 150 PF :		1 : SS : FAIL :	2200 :	10 :	SET(+) DATA(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC								
107	3 : RCA : CD40138E			N/R : APR 78 : 1500 : 150 PF :		1 : SS : FAIL :	4000 :	10 :	SET(+) DATA(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC								
107	4 : RCA : CD40138E			N/R : APR 78 : 1500 : 150 PF :		1 : SS : PASS :	4000 :	2 :	SET(+) DATA(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC								
120	1 : NATIONAL SEMI : CD40138CN			N/R : APR 78 : 1500 : 150 PF :		1 : SS : FAIL :	980 :	3 :	DATA(+) CLOCK(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC								
120	2 : NATIONAL SEMI : CD40138CN			N/R : APR 78 : 1500 : 150 PF :		1 : SS : FAIL :	1350 :	10 :	DATA(+) CLOCK(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC								
120	3 : NATIONAL SEMI : CD40138CN			N/R : APR 78 : 1500 : 150 PF :		1 : SS : FAIL :	1620 :	10 :	DATA(+) CLOCK(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC								
120	4 : NATIONAL SEMI : CD40138CN			N/R : APR 78 : 1500 : 150 PF :		1 : SS : PASS :	1620 :	2 :	DATA(+) CLOCK(-)
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC								
40149	SHIFT REGISTER, 8 BIT SYNCHRONOUS								
030	394 : N/R : N/R			N/R : N/R : 1500 : 100 PF :		1 : N/R : FAIL :	1000 :	1 :	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%								
40158	SHIFT REGISTER, DUAL 4 BIT SERIAL								
030	385 : N/R : N/R			N/R : N/R : 1500 : 100 PF :		1 : N/R : FAIL :	1000 :	1 :	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%								
030	386 : N/R : 40158C			N/R : N/R : 1500 : 100 PF :		1 : N/R : FAIL :	1000 :	1 :	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%								
40160B	COUNTER, DECADE								
030	547 : N/R : N/R			N/R : N/R : 1500 : 100 PF :		1 : N/R : FAIL :	1000 :	1 :	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%								
030	548 : N/R : 40160BC			N/R : N/R : 1500 : 100 PF :		1 : N/R : FAIL :	1000 :	1 :	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%								
40161B	COUNTER, BINARY								
030	549 : N/R : N/R			N/R : N/R : 1500 : 100 PF :		1 : N/R : FAIL :	1000 :	1 :	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%								
40161BC	COUNTER, BINARY								
030	550 : N/R : 40161BC			N/R : N/R : 1500 : 100 PF :		1 : N/R : FAIL :	1000 :	1 :	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%								

BASIC PART NUMBER	DESCRIPTION
100-000000	...
100-000001	...
100-000002	...
100-000003	...
100-000004	...
100-000005	...
100-000006	...
100-000007	...
100-000008	...
100-000009	...
100-000010	...
100-000011	...
100-000012	...
100-000013	...
100-000014	...
100-000015	...
100-000016	...
100-000017	...
100-000018	...
100-000019	...
100-000020	...
100-000021	...
100-000022	...
100-000023	...
100-000024	...
100-000025	...
100-000026	...
100-000027	...
100-000028	...
100-000029	...
100-000030	...
100-000031	...
100-000032	...
100-000033	...
100-000034	...
100-000035	...
100-000036	...
100-000037	...
100-000038	...
100-000039	...
100-000040	...
100-000041	...
100-000042	...
100-000043	...
100-000044	...
100-000045	...
100-000046	...
100-000047	...
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100-000072	...
100-000073	...
100-000074	...
100-000075	...
100-000076	...
100-000077	...
100-000078	...
100-000079	...
100-000080	...
100-000081	...
100-000082	...
100-000083	...
100-000084	...
100-000085	...
100-000086	...
100-000087	...
100-000088	...
100-000089	...
100-000090	...
100-000091	...
100-000092	...
100-000093	...
100-000094	...
100-000095	...
100-000096	...
100-000097	...
100-000098	...
100-000099	...
100-000100	...

401628 COUNTER, DECADE

401638 BINARY COUNTER, BINARY

40178 COUNTER, DECADE CNTR/DIVIDER

401743 FLIP-FLOP, HEX D

4.019 COUNTER PRESETTABLE DIVIDE

4019	CATE	QUAD AND/OR SELECT

165	:	5	:	FAIRCHILD SEMI	:	N/R	:	7521	:	JUN 76	:	1500	:	100 PF	:	1	:	GN	:	PASS	:	400	:	2	:	
	:	REMARK:	:	BREAKDOWN VOLTAGE CHARACTERISTICS WERE DEGRADED.	:	N/R	:	AUG 78	:	1500	:	100 PF	:	1	:	SS	:	FAIL	:	2000	:	1	:	INPUT(3)(+)	:	OUT(12)(-)
006	:	8	:	FAIRCHILD SEMI	:	N/R	:	AUG 78	:	1500	:	100 PF	:	1	:	SS	:	FAIL	:	2000	:	1	:	INPUT(3)(+)	:	OUT(12)(-)
	:	REMARK:	:	DIFFERENT PIN COMB. TESTED AT EACH VOLTAGE STEP	:	N/R	:	AUG 78	:	1500	:	100 PF	:	1	:	SS	:	FAIL	:	2500	:	4	:	INPUT(5)(+)	:	OUT(11)(-)
006	:	9	:	FAIRCHILD SEMI	:	N/R	:	AUG 78	:	1500	:	100 PF	:	1	:	SS	:	FAIL	:	2500	:	4	:	INPUT(5)(+)	:	OUT(11)(-)
	:	REMARK:	:	DIFFERENT PIN COMB. TESTED AT EACH VOLTAGE STEP	:	N/R	:	AUG 78	:	1500	:	100 PF	:	1	:	SS	:	FAIL	:	2000	:	4	:	INPUT(3)(+)	:	OUT(12)(-)
006	:	10	:	NATIONAL SEMI	:	CD4019	:	AUG 78	:	1500	:	100 PF	:	1	:	SS	:	FAIL	:	2000	:	4	:	INPUT(3)(+)	:	OUT(12)(-)
	:	REMARK:	:	DIFFERENT PIN COMB. TESTED AT EACH VOLTAGE STEP	:	N/R	:	AUG 78	:	1500	:	100 PF	:	1	:	SS	:	FAIL	:	2500	:	4	:	INPUT(5)(+)	:	OUT(11)(-)
007	:	6	:	FAIRCHILD SEMI	:	N/R	:	AUG 78	:	1500	:	100 PF	:	1	:	SS	:	FAIL	:	2000	:	4	:	INPUT(3)(+)	:	OUT(12)(-)
	:	REMARK:	:	DIFFERENT PIN COMB. TESTED AT EACH VOLTAGE STEP	:	N/R	:	AUG 78	:	1500	:	100 PF	:	1	:	SS	:	FAIL	:	2500	:	4	:	INPUT(5)(+)	:	OUT(11)(-)

TECHNOLOGY: CHOS
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

SRC.: SEQ.: : DATE: TEST: RES.: : FULL PART NUM.: : MANUFACTURER: : GATE, QUAD AND/OR SELECT: : NUMBER: TEST: : NUC.: :
CODE: NUM.: : CODE: DATE: (OHMS): : CAP.: PULSES: TYPE: RESULT: VOLTAGE: DEV.: : PIN COMBINATION

4019 GATE, QUAD AND/OR SELECT (CONTINUED)

008 : 8 : FAIRCHILD SEMI : N/R : N/R : N/R : 1500 : 100 PF : 1 : CN : PASS : 600 : 2 : N/R
FAILURE CRITERIA: 1H, 1L, ISS OUT OF SPEC
009 : 10 : FAIRCHILD SEMI : N/R : N/R : N/R : 1500 : 100 PF : 1 : CN : PASS : 800 : 2 : N/R
FAILURE CRITERIA: 1H, 1L, ISS OUT OF SPEC
010 : 9 : FAIRCHILD SEMI : N/R : N/R : N/R : 1500 : 100 PF : 1 : CN : PASS : 1000 : 1 : N/R
FAILURE CRITERIA: 1H, 1L, ISS OUT OF SPEC
010 : 10 : FAIRCHILD SEMI : N/R : N/R : N/R : 1500 : 100 PF : 1 : CN : FAIL : 1000 : 1 : N/R
FAILURE CRITERIA: 1H, 1L, ISS OUT OF SPEC AT 25C
011 : 1 : SOLID STATE SCIENTIFIC : N/R : N/R : AUG 78 : 1500 : 100 PF : 1 : CN : PASS : 200 : 5 : N/R
FAILURE CRITERIA: 1H, 1L, OR ISS OUT OF SPEC
012 : 1 : NATIONAL SEMI : N/R : N/R : AUG 78 : 1500 : 100 PF : 1 : CN : PASS : 400 : 5 : N/R
FAILURE CRITERIA: 1H, 1L, OR ISS OUT OF SPEC
012 : 2 : SOLID STATE SCIENTIFIC : N/R : N/R : AUG 78 : 1500 : 100 PF : 1 : CN : PASS : 400 : 5 : N/R
FAILURE CRITERIA: 1H, 1L, OR ISS OUT OF SPEC
013 : 1 : NATIONAL SEMI : N/R : N/R : AUG 78 : 1500 : 100 PF : 1 : CN : PASS : 600 : 5 : N/R
FAILURE CRITERIA: 1H, 1L, OR ISS OUT OF SPEC
013 : 2 : SOLID STATE SCIENTIFIC : N/R : N/R : AUG 78 : 1500 : 100 PF : 1 : CN : FAIL : 600 : 5 : N/R
FAILURE CRITERIA: 1H, 1L, OR ISS OUT OF SPEC

4019B GATE, QUAD AND/OR SELECT

030 : 389 : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1000 : 1 : N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%
030 : 390 : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1000 : 1 : N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

4019AB SHIFT REGISTER, 4-BIT BIDIRECTIONAL

030 : 557 : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1000 : 1 : N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%
030 : 558 : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1000 : 1 : N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

4019BB SHIFT REGISTER, 4-BIT PARALLEL

030 : 559 : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1000 : 1 : N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%
030 : 560 : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1000 : 1 : N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

4020 COUNTER, 14 STAGE BINARY

003 : 4 : SOLID STATE SCIENTIFIC : N/R : 7508 : NOV 75 : 0 : 100 PF : 1 : SS : FAIL : 900 : 1 : INPUT (+) PR. SUPPLY (-)

4020B COUNTER, 14 STAGE BINARY

030 : 391 : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1000 : 1 : N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

TECHNOLOGY: CMOS
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

SEC. : SEQ. : DATE : TEST : RES. : NUMBER : TEST : : MM. :
CODE : MIN. : MANUFACTURER : FULL PART NUM. : CODE : DATE : (CHS) : CAP. : PULSES : TYPE : RESULT : VOLTAGE : DEV. : PIN COMBINATION

4020B COUNTER, 14 STAGE BINARY (CONTINUED)

030 : 392 : N/R : 4020BC : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1000 : 1 : N/R :
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

4021 SHIFT REGISTER, 8 STAGE STATIC

006 : 3 : NATIONAL SEMI : N/R : N/R : AUG 78 : 1500 : 100 PF : 1 : SS : FAIL : 2000 : 3 : INPUT(13)(+) OUT(12)
REMARK: DIFFERENT PIN COMB. TESTED AT EACH VOLTAGE STEP FAILURE CRITERIA: IIR, IIL, OR ISS OUT OF SPEC AT VDD=15V
006 : 4 : NATIONAL SEMI : N/R : N/R : AUG 78 : 1500 : 100 PF : 1 : SS : FAIL : 800 : 1 : INPUT(11)(+) OUT(12)
REMARK: DIFFERENT PIN COMB. TESTED AT EACH VOLTAGE STEP FAILURE CRITERIA: IIR, IIL, OR ISS OUT OF SPEC AT VDD=15V

4021A SHIFT REGISTER, 8 STAGE STATIC

156 : 1 : RCA : CD4021A : 7537 : N/R : 610 : 100 PF : 1 : SS : PASS : 1500 : 2 : OUTPUT(3)(+)
FAILURE CRITERIA: FUNCTIONAL FAILURE
156 : 2 : RCA : CD4021A : 7537 : N/R : 610 : 100 PF : 1 : SS : FAIL : 1500 : 1 : OUTPUT(3)(-)
FAILURE CRITERIA: FUNCTIONAL FAILURE
156 : 3 : RCA : CD4021A : 7537 : N/R : 610 : 100 PF : 1 : SS : PASS : 1500 : 1 : OUTPUT(3)(-)
FAILURE CRITERIA: FUNCTIONAL FAILURE
156 : 4 : RCA : CD4021A : 7537 : N/R : 610 : 100 PF : 1 : SS : PASS : 1500 : 2 : VSS(8)(+)
FAILURE CRITERIA: FUNCTIONAL FAILURE
156 : 5 : RCA : CD4021A : 7537 : N/R : 610 : 100 PF : 1 : SS : PASS : 1500 : 2 : PSC(9)(+)
FAILURE CRITERIA: FUNCTIONAL FAILURE
156 : 6 : RCA : CD4021A : 7537 : N/R : 610 : 100 PF : 1 : SS : PASS : 1500 : 2 : P17(15)(+)
FAILURE CRITERIA: FUNCTIONAL FAILURE
156 : 7 : RCA : CD4021A : 7537 : N/R : 610 : 100 PF : 1 : SS : PASS : 1500 : 1 : P17(15)(-)
REMARK: DEGRADATION OCCURRED AT 1500V.
156 : 8 : RCA : CD4021A : 7537 : N/R : 610 : 100 PF : 1 : SS : PASS : 1500 : 1 : VDD(16)(+)
FAILURE CRITERIA: FUNCTIONAL FAILURE
156 : 9 : RCA : CD4021A : 7537 : N/R : 610 : 100 PF : 1 : SS : PASS : 1500 : 1 : VDD(16)(+)
FAILURE CRITERIA: FUNCTIONAL FAILURE
156 : 10 : RCA : CD4021A : 7537 : N/R : 610 : 100 PF : 1 : SS : PASS : 1500 : 2 : VDD(16)(-)
FAILURE CRITERIA: FUNCTIONAL FAILURE
157 : 1 : RCA : CD4021A : 7537 : N/R : 610 : 100 PF : 1 : CM : PASS : 1000 : 6 : VSS(8)(-)
REMARK: DEGRADATION OCCURRED AT THE APPLIED VOLTAGE.
158 : 1 : RCA : CD4021A : 7537 : N/R : 610 : 100 PF : 1 : CM : PASS : 1200 : 1 : OUTPUT(3)(-)
FAILURE CRITERIA: FUNCTIONAL FAILURE
158 : 2 : RCA : CD4021A : 7537 : N/R : 610 : 100 PF : 1 : CM : PASS : 1200 : 2 : OUTPUT(3)(-)
REMARK: DEGRADATION OCCURRED AT THE APPLIED VOLTAGE.
158 : 3 : RCA : CD4021A : 7537 : N/R : 610 : 100 PF : 1 : CM : FAIL : 1200 : 1 : OUTPUT(3)(-)
FAILURE CRITERIA: FUNCTIONAL FAILURE
159 : 1 : RCA : CD4021A : 7537 : N/R : 610 : 100 PF : 1 : CM : PASS : 1500 : 2 : VSS(8)(-)
REMARK: DEGRADATION OCCURRED AT THE APPLIED VOLTAGE.
159 : 2 : RCA : CD4021A : 7537 : N/R : 610 : 100 PF : 1 : CM : PASS : 1500 : 2 : PSC(9)(-)
FAILURE CRITERIA: FUNCTIONAL FAILURE
159 : 3 : RCA : CD4021A : 7537 : N/R : 610 : 100 PF : 1 : CM : PASS : 1500 : 1 : P17(15)(-)
REMARK: DEGRADATION OCCURRED AT THE APPLIED VOLTAGE.
159 : 4 : RCA : CD4021A : 7537 : N/R : 610 : 100 PF : 1 : CM : PASS : 1500 : 4 : VDD(16)(+)
REMARK: DEGRADATION OCCURRED AT THE APPLIED VOLTAGE.

TECHNOLOGY: CHOS
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

SEC.: SEQ.: : DATE : TEST : RES.: : NUMBER : TEST : : MIN.: :
CODE : NUM.: : MANUFACTURER : FULL PART NUM. : CODE : DATE : (OHMS): CAP. : PULSES : TYPE : RESULT: VOLTAGE: DEV. : PIN COMBINATION

(CONTINUED)

4021A SHIFT REGISTER, 8 STAGE STATIC

159 : 5 : RCA : CD4021A : 7537 : N/R : 610 : 100 PF : 1 : GN : PASS : 1500 : 2 : OUTPUT(3)(-)
FAILURE CRITERIA: FUNCTIONAL FAILURE
159 : 6 : RCA : CD4021A : 7537 : N/R : 610 : 100 PF : 1 : GN : PASS : 1500 : 2 : OUTPUT(3)(-)
REMARK: DEGRADATION OCCURRED AT THE APPLIED VOLTAGE. FAILURE CRITERIA: FUNCTIONAL FAILURE
159 : 7 : RCA : CD4021A : 7537 : N/R : 610 : 100 PF : 1 : GN : FAIL : 1500 : 1 : OUTPUT(3)(-)
FAILURE CRITERIA: FUNCTIONAL FAILURE
159 : 8 : RCA : CD4021A : 7537 : N/R : 610 : 100 PF : 1 : GN : PASS : 1500 : 4 : PI7(15)(-)
REMARK: DEGRADATION OCCURRED AT THE APPLIED VOLTAGE. FAILURE CRITERIA: FUNCTIONAL FAILURE
159 : 9 : RCA : CD4021A : 7537 : N/R : 610 : 100 PF : 1 : GN : PASS : 1500 : 3 : VSS(8)(-)
REMARK: DEGRADATION OCCURRED AT THE APPLIED VOLTAGE. FAILURE CRITERIA: FUNCTIONAL FAILURE
159 : 10 : RCA : CD4021A : 7537 : N/R : 610 : 100 PF : 1 : GN : FAIL : 1500 : 1 : VSS(8)(-)
FAILURE CRITERIA: FUNCTIONAL FAILURE
160 : 1 : RCA : CD4021A : 7537 : N/R : 610 : 100 PF : 1 : SS : FAIL : 3208 : 6 : VDD(16)(+)
REMARK: FAILURE VOLTAGE IS AN AVERAGE.
160 : 2 : RCA : CD4021A : 7537 : N/R : 610 : 100 PF : 1 : SS : FAIL : 3250 : 2 : VDD(16)(-)
REMARK: FAILURE VOLTAGE IS AN AVERAGE.
160 : 3 : RCA : CD4021A : 7537 : N/R : 610 : 100 PF : 1 : SS : FAIL : 3250 : 2 : OUTPUT(3)(+)
REMARK: FAILURE VOLTAGE IS AN AVERAGE.
160 : 4 : RCA : CD4021A : 7537 : N/R : 610 : 100 PF : 1 : SS : FAIL : 2104 : 14 : OUTPUT(3)(-)
REMARK: FAILURE VOLTAGE IS AN AVERAGE.
160 : 5 : RCA : CD4021A : 7537 : N/R : 610 : 100 PF : 1 : SS : FAIL : 3250 : 2 : VSS(8)(+)
REMARK: FAILURE VOLTAGE IS AN AVERAGE.
160 : 6 : RCA : CD4021A : 7537 : N/R : 610 : 100 PF : 1 : SS : FAIL : 2063 : 12 : VSS(8)(-)
REMARK: FAILURE VOLTAGE IS AN AVERAGE.
160 : 7 : RCA : CD4021A : 7537 : N/R : 610 : 100 PF : 1 : SS : FAIL : 3250 : 2 : PSC(9)(+)
REMARK: FAILURE VOLTAGE IS AN AVERAGE.
160 : 8 : RCA : CD4021A : 7537 : N/R : 610 : 100 PF : 1 : SS : FAIL : 4000 : 2 : PSC(9)(-)
REMARK: FAILURE VOLTAGE IS AN AVERAGE.
160 : 9 : RCA : CD4021A : 7537 : N/R : 610 : 100 PF : 1 : SS : PASS : 5500 : 2 : PI7(15)(+)
REMARK: FAILURE VOLTAGE IS AN AVERAGE.
160 : 10 : RCA : CD4021A : 7537 : N/R : 610 : 100 PF : 1 : SS : FAIL : 4000 : 5 : PI7(15)(-)
REMARK: FAILURE VOLTAGE IS AN AVERAGE.
233 : 1 : RCA : CD4021A : 7537 : N/R : 610 : 100 PF : 1 : SS : PASS : 1000 : 2 : VSS(8)(-)
REMARK: DEGRADATION OCCURRED AT 1000V.
233 : 2 : RCA : CD4021A : 7537 : N/R : 610 : 100 PF : 1 : SS : PASS : 1000 : 2 : PSC(9)(-)
REMARK: DEGRADATION OCCURRED AT 1000V.
233 : 3 : RCA : CD4021A : 7537 : N/R : 610 : 100 PF : 1 : SS : PASS : 1000 : 1 : PI7(15)(-)
REMARK: DEGRADATION OCCURRED AT 1000V.

4021B SHIFT REGISTER, 6 STAGE STATIC

030 : 393 : N/R : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1000 : 1 : N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%
030 : 394 : N/R : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1000 : 1 : N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%
161 : 1 : FAIRCHILD SEMI : F4021BC : N/R : N/R : 610 : 100 PF : 1 : SS : PASS : 4000 : 2 : VSS(+)
FAILURE CRITERIA: FUNCTIONAL FAILURE
161 : 2 : FAIRCHILD SEMI : F4021BC : N/R : N/R : 610 : 100 PF : 1 : SS : PASS : 4000 : 3 : VSS(-)
REMARK: DEGRADATION OCCURRED AT 3500V. FAILURE CRITERIA: FUNCTIONAL FAILURE

TECHNOLOGY: CHOS
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

SEC. : SEQ. : CODE : NUM. :	MANUFACTURER	FULL PART NUM. :	DATE : TEST : RES. : : CODE : DATE : (OHMS) :	CAP. :	NUMBER : TEST : : PULSES : TYPE : RESULT :	VOLTAGE : DEV. : : VOLTAGE : DEV. :	NUM. : : PIN COMBINATION
4021B	SHIFT REGISTER , 8 STAGE STATIC						
161 :	3 : FAIRCHILD SEMI	: F4021BC	: N/R : N/R : 610 : 100 PF :	1 : SS : FAIL :	4000 : 1 : VSS(-)		
	REMARK: DEGRADATION OCCURRED AT 2000V.		FAILURE CRITERIA: FUNCTIONAL FAILURE				
161 :	4 : FAIRCHILD SEMI	: F4021BC	: N/R : N/R : 610 : 100 PF :	1 : SS : FAIL :	2000 : 1 : VSS(-)		
	FAILURE CRITERIA: FUNCTIONAL FAILURE						
161 :	5 : FAIRCHILD SEMI	: F4021BC	: N/R : N/R : 610 : 100 PF :	1 : SS : FAIL :	4000 : 1 : PSC(+)		
	REMARK: DEGRADATION OCCURRED AT 3000V.		FAILURE CRITERIA: FUNCTIONAL FAILURE				
161 :	6 : FAIRCHILD SEMI	: F4021BC	: N/R : N/R : 610 : 100 PF :	1 : SS : FAIL :	2500 : 1 : PSC(+)		
	REMARK: DEGRADATION OCCURRED AT 1500V.		FAILURE CRITERIA: FUNCTIONAL FAILURE				
161 :	7 : FAIRCHILD SEMI	: F4021BC	: N/R : N/R : 610 : 100 PF :	1 : SS : FAIL :	3500 : 1 : PSC(-)		
	REMARK: DEGRADATION OCCURRED AT 1500V.		FAILURE CRITERIA: FUNCTIONAL FAILURE				
161 :	8 : FAIRCHILD SEMI	: F4021BC	: N/R : N/R : 610 : 100 PF :	1 : SS : FAIL :	2000 : 1 : PSC(-)		
	FAILURE CRITERIA: FUNCTIONAL FAILURE						
161 :	9 : FAIRCHILD SEMI	: F4021BC	: N/R : N/R : 610 : 100 PF :	1 : SS : FAIL :	4000 : 2 : VDD(+)		
	FAILURE CRITERIA: FUNCTIONAL FAILURE						
161 :	10 : FAIRCHILD SEMI	: F4021BC	: N/R : N/R : 610 : 100 PF :	1 : SS : PASS :	4000 : 2 : VDD(-)		
	FAILURE CRITERIA: FUNCTIONAL FAILURE						
161 :	11 : FAIRCHILD SEMI	: F4021BC	: N/R : N/R : 610 : 100 PF :	1 : SS : FAIL :	2000 : 1 : P17(+)		
	FAILURE CRITERIA: FUNCTIONAL FAILURE						
161 :	12 : FAIRCHILD SEMI	: F4021BC	: N/R : N/R : 610 : 100 PF :	1 : SS : FAIL :	2000 : 1 : P17(+)		
	REMARK: DEGRADATION OCCURRED AT 1500V.		FAILURE CRITERIA: FUNCTIONAL FAILURE				
161 :	13 : FAIRCHILD SEMI	: F4021BC	: N/R : N/R : 610 : 100 PF :	1 : SS : FAIL :	2500 : 2 : P17(-)		
	FAILURE CRITERIA: FUNCTIONAL FAILURE						
161 :	14 : FAIRCHILD SEMI	: F4021BC	: N/R : N/R : 610 : 100 PF :	1 : SS : FAIL :	2500 : 1 : OUTPUT(+)		
	FAILURE CRITERIA: FUNCTIONAL FAILURE						
161 :	15 : FAIRCHILD SEMI	: F4021BC	: N/R : N/R : 610 : 100 PF :	1 : SS : PASS :	4000 : 1 : OUTPUT(+)		
	FAILURE CRITERIA: FUNCTIONAL FAILURE						
161 :	16 : FAIRCHILD SEMI	: F4021BC	: N/R : N/R : 610 : 100 PF :	1 : SS : PASS :	4000 : 5 : OUTPUT(-)		
	FAILURE CRITERIA: FUNCTIONAL FAILURE						

4023A GATE , TRIPLE 3-INPUT NAND

244 :	3 :	N/R	: N/R	: 7614 : N/R : 1500 : 100 PF :	1 : SS : FAIL :	975 : 1 : OUTPUT(+) INPUT(-)
	FAILURE CRITERIA: D.C. PARAMETER OUT OF SPEC.					
244 :	4 :	N/R	: N/R	: 7614 : N/R : 1500 : 100 PF :	1 : SS : FAIL :	1000 : 1 : OUTPUT(+) INPUT(-)
	FAILURE CRITERIA: D.C. PARAMETER OUT OF SPEC.					
244 :	5 :	N/R	: N/R	: 7614 : N/R : 1500 : 100 PF :	1 : SS : PASS :	1000 : 12 : OUTPUT(+) INPUT(-)
	FAILURE CRITERIA: D.C. PARAMETER OUT OF SPEC.					
245 :	26 :	N/R	: N/R	: 614 : N/R : 100 : .1 UF :	1 : SS : FAIL :	203 : 15 : VSS(+) INPUT(-)
	REMARK: FAILURE VOLTAGE IS AN AVERAGE OF 15 DEVICES.			FAILURE CRITERIA: D.C. PARAMETER OUT OF SPEC.		

4023B GATE , TRIPLE 3 INPUT NAND

030 :	395 :	N/R	: N/R	: N/R : N/R : 1500 : 100 PF :	1 : N/R : FAIL :	1000 : 1 : N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%					
030 :	396 :	N/R	: N/R	: N/R : N/R : 1500 : 100 PF :	1 : N/R : FAIL :	1000 : 1 : N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%					
245 :	27 :	N/R	: N/R	: 705 : N/R : 100 : .1 UF :	1 : SS : FAIL :	232 : 15 : VSS(+) INPUT(-)
	REMARK: FAILURE VOLTAGE IS AN AVERAGE OF 15 DEVICES.			FAILURE CRITERIA: D.C. PARAMETER OUT OF SPEC.		

[illegible]

40230 GATE . TRIPLE 3-INPUT NAND

FAILURE CRITERIA: D.C. PARAMETER OUT OF SPEC.

FAILURE CRITERIA: D.C. PARAMETER OUT OF SPEC.

244 : 9 : N/R : N/R

244	:	10	:	N/R	:	N/R
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245 : 28 : N/K : N/K :
DEMAND. BATTERY VOLTAGE IS AN AVERAGE OF 15 D

COUNTER - 7 STAGE BINARY

029 : 260 : RCA : CD4024C

0003 : 2 : SOLID STATE SCIENTIFIC : N/R

CONFIDENTIAL

FAILURE CRITERIA: PARAMETER CHANGE OF GREATER

FAILURE CRITERIA: PARAMETER CHANGE OF GREATER

WILLIAM T. WATSON

FAILURE CRITERIA: PARAMETER CHANGE OF GREATER

FAILURE CRITERIA: PARAMETER CHANGE OF GREATER

SECRET

FAILURE CRITERIA: PARAMETER CHANGE OF GREATER

FAILURE CRITERIA: PARAMETER CHANGE OF GREATER

1. Introduction

FAILURE CRITERIA: PARAMETER CHANGE OF GREATER

PAYLONE CRITERIA: PARAMETER CHANGE OF GRAYTON

100

[illegible]

4029 COUNTER . PRESETTABLE UP/DOWN

4029B COUNTER - PRESETT. UP/DOWN BIN

40308 GATE , QUAD EXCLUSIVE OR

4031B SHIFT REGISTER, 64 BIT STATIC

4038 COUNTER, DECADE

4034B SHIFT REGISTER , 8 BIT

4035 SHIFT REGISTER . 4 BIT

[illegible]

TECHNOLOGY: CMOS
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION	S.N. : SEQ. : CODE : NUM. :	MANUFACTURER	DATE : TEST : RES. : : FULL PART NUM. : CODE : DATE : (OHMS) :	NUMBER : TEST : : PULSES : TYPE : RESULT : VOLTAGE : DEV. : : MUH. :	PIN COMBINATION
4035B	SHIFT REGISTER , 4 BIT					
030	414 : N/R FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%		N/R	N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1000 : 1 :		N/R
030	415 : N/R FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%		4035BC	N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1000 : 1 :		N/R
4040	COUNTER , 12 STAGE BINARY					
165	7 : FAIRCHILD SEMI REMARK: BREAKDOWN VOLTAGE CHARACTERISTICS WERE DEGRADED.		N/R	7503 : JUN 76 : 1500 : 100 PF : 1 : CN : PASS : 400 : 2 :		N/R
4040B	COUNTER , 12 STAGE BINARY					
030	416 : N/R FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%		N/R	N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1000 : 1 :		N/R
030	417 : N/R FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%		4040BC	N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1000 : 1 :		N/R
4042B	LATCH , QUAD Clocked D TYPE					
030	418 : N/R FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%		N/R	N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1000 : 1 :		N/R
030	419 : N/R FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%		4042BC	N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1000 : 1 :		N/R
4043B	LATCH , QUAD NOR R/S					
030	420 : N/R FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%		N/R	N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1000 : 1 :		N/R
4044	LATCH , QUAD NAND R/S					
006	14 : NATIONAL SEMI REMARK: DIFFERENT PIN COMB. TESTED AT EACH VOLTAGE STEP		CD4044	N/R : AUG 78 : 1500 : 100 PF : 1 : 3S : FAIL : 1000 : 3 :		INPUT(14)(+) OUT(1)(-)
006	15 : SOLID STATE SCIENTIFIC : CD4044 REMARK: DIFFERENT PIN COMB. TESTED AT EACH VOLTAGE STEP		N/R	AUG 78 : 1500 : 100 PF : 1 : SS : FAIL : 1200 : 1 :		INPUT(3)(+) OUT(13)(-)
006	16 : SOLID STATE SCIENTIFIC : N/R REMARK: DIFFERENT PIN COMB. TESTED AT EACH VOLTAGE STEP		N/R	AUG 78 : 1500 : 100 PF : 1 : SS : FAIL : 2000 : 1 :		INPUT(7)(+) OUT(9)(-)
006	17 : SOLID STATE SCIENTIFIC : N/R REMARK: DIFFERENT PIN COMB. TESTED AT EACH VOLTAGE STEP		N/R	AUG 78 : 1500 : 100 PF : 1 : SS : FAIL : 600 : 1 :		INPUT(6)(+) OUT(9)(-)
4046B	PHASE LOCK LOOP					
030	421 : N/R FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%		N/R	N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1000 : 1 :		N/R
030	422 : N/R FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%		4046BC	N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1000 : 1 :		N/R

TECHNOLOGY: CMOS
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

SEC.: SEQ.: : DATE: TEST: RES.: : NUMBER: TEST: : NUM.:
CODE: NUM.: : CODE: DATE: (OHMS): CAP.: PULSES: TYPE: RESULT: VOLTAGE: DEV.: PIN COMBINATION

(CONTINUED)

4049 BUFFER/INVERTER, HEX BUFFER/CONVERTER

011 : 2 : NATIONAL SEMI : N/R : N/R : AUG 78 : 1500 : 100 PF : 1 : GN : PASS : 200 : 5 : N/R
FAILURE CRITERIA: 1H, 1L, OR ISS OUT OF SPEC
011 : 3 : SOLID STATE SCIENTIFIC : N/R : N/R : AUG 78 : 1500 : 100 PF : 1 : GN : PASS : 200 : 5 : N/R
FAILURE CRITERIA: 1H, 1L, OR ISS OUT OF SPEC
012 : 3 : NATIONAL SEMI : N/R : N/R : AUG 78 : 1500 : 100 PF : 1 : GN : PASS : 400 : 5 : N/R
FAILURE CRITERIA: 1H, 1L, OR ISS OUT OF SPEC
012 : 4 : SOLID STATE SCIENTIFIC : N/R : N/R : AUG 78 : 1500 : 100 PF : 1 : GN : PASS : 400 : 5 : N/R
FAILURE CRITERIA: 1H, 1L, OR ISS OUT OF SPEC
013 : 3 : NATIONAL SEMI : N/R : N/R : AUG 78 : 1500 : 100 PF : 1 : GN : PASS : 600 : 5 : N/R
FAILURE CRITERIA: 1H, 1L, OR ISS OUT OF SPEC
013 : 4 : SOLID STATE SCIENTIFIC : N/R : N/R : AUG 78 : 1500 : 100 PF : 1 : GN : PASS : 600 : 5 : N/R
FAILURE CRITERIA: 1H, 1L, OR ISS OUT OF SPEC

4049A BUFFER/INVERTER, HEX BUFFER/CONVERTER

108 : 1 : RCA : CD4049AE : N/R : APR 78 : 1500 : 150 PF : 1 : SS : FAIL : 1200 : 3 : INPUT(+) VCC(-)
FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC
108 : 2 : RCA : CD4049AE : N/R : APR 78 : 1500 : 150 PF : 1 : SS : FAIL : 1750 : 10 : INPUT(+) VCC(-)
FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC
108 : 3 : RCA : CD4049AE : N/R : APR 78 : 1500 : 150 PF : 1 : SS : FAIL : 2200 : 10 : INPUT(+) VCC(-)
FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC
108 : 4 : RCA : CD4049AE : N/R : APR 78 : 1500 : 150 PF : 1 : SS : PASS : 2200 : 2 : INPUT(+) VCC(-)
FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC

4049B BUFFER/INVERTER, HEX BUFFER/CONVERTER

109 : 1 : RCA : CD4049UBE : N/R : APR 78 : 1500 : 150 PF : 1 : SS : FAIL : 980 : 3 : INPUT(+) VCC(-)
FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC
109 : 2 : RCA : CD4049UBE : N/R : APR 78 : 1500 : 150 PF : 1 : SS : FAIL : 1460 : 10 : INPUT(+) VCC(-)
FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC
109 : 3 : RCA : CD4049UBE : N/R : APR 78 : 1500 : 150 PF : 1 : SS : FAIL : 1950 : 10 : INPUT(+) VCC(-)
FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC
109 : 4 : RCA : CD4049UBE : N/R : APR 78 : 1500 : 150 PF : 1 : SS : PASS : 1950 : 2 : INPUT(+) VCC(-)
FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC

4050 BUFFER/INVERTER, HEX BUFFER/CONVERTER

165 : 2 : FAIRCHILD SEMI : N/R : 7552 : JUN 76 : 1500 : 100 PF : 1 : GN : PASS : 400 : 2 : N/R
REMARK: BREAKDOWN VOLTAGE CHARACTERISTICS WERE DEGRADED. FAILURE CRITERIA: FUNCTIONAL FAILURE
165 : 9 : SOLID STATE SCIENTIFIC : N/R : 7540 : JUN 76 : 1500 : 100 PF : 1 : GN : PASS : 400 : 2 : N/R
REMARK: BREAKDOWN VOLTAGE CHARACTERISTICS WERE DEGRADED. FAILURE CRITERIA: FUNCTIONAL FAILURE
384 : 28 : N/A : N/R : 7801 : N/R : 1000 : 200 PF : 1 : SS : FAIL : 500 : 1 : EACH PIN(+)
REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 1020V.
FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.
006 : 11 : SOLID STATE SCIENTIFIC : N/R : N/R : AUG 78 : 1500 : 100 PF : 1 : SS : FAIL : 1200 : 1 : INPUT(11)(+) OUT(12)
REMARK: DIFFERENT PIN COMB. TESTED AT EACH VOLTAGE STEP FAILURE CRITERIA: 1H, 1L, OR ISS OUT OF SPEC AT VDD=15V
006 : 12 : SOLID STATE SCIENTIFIC : N/R : N/R : AUG 78 : 1500 : 100 PF : 1 : SS : FAIL : 1500 : 2 : INPUT(14)(+) OUT(15)
REMARK: DIFFERENT PIN COMB. TESTED AT EACH VOLTAGE STEP FAILURE CRITERIA: 1H, 1L, OR ISS OUT OF SPEC AT VDD=15V

TECHNOLOGY: CHOS
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

SEC.: SEQ.: : DATE : TEST : RES.: : NUMBER : TEST : : N/A.: :
CODE : NUM.: : MANUFACTURER : FULL PART NUM. : CODE : DATE : (OHMS): CAP. : PULSES : TYPE : RESULT: VOLTAGE: DEV. : PIN COMBINATION

4050 BUFFER/INVERTER, HEX BUFFER/CONVERTER (CONTINUED)

006 : 13 : SOLID STATE SCIENTIFIC : N/R : N/R : AUG 78 : 1500 : 100 PF : 1 : SS : FAIL : 2000 : 1 : INPUT(14)(+) OUT(15)
REMARK: DIFFERENT PIN COMB. TESTED AT EACH VOLTAGE STEP FAILURE CRITERIA: 1IH, 1IL, OR ISS OUT OF SPEC AT VDD=15V
007 : 7 : FAIRCHILD SEMI : N/R : N/R : N/R : 1500 : 100 PF : 1 : GN : PASS : 400 : 2 : N/R
FAILURE CRITERIA: 1IH, 1IL, ISS OUT OF SPEC
008 : 7 : FAIRCHILD SEMI : N/R : N/R : N/R : 1500 : 100 PF : 1 : GN : PASS : 600 : 2 : N/R
FAILURE CRITERIA: 1IH, 1IL, ISS OUT OF SPEC
009 : 9 : FAIRCHILD SEMI : N/R : N/R : N/R : 1500 : 100 PF : 1 : GN : FAIL : 800 : 2 : N/R
FAILURE CRITERIA: 1IH, 1IL, ISS OUT OF SPEC AT 25C
010 : 7 : FAIRCHILD SEMI : N/R : N/R : N/R : 1500 : 100 PF : 1 : GN : FAIL : 1000 : 1 : N/R
FAILURE CRITERIA: 1IH, 1IL, ISS OUT OF SPEC AT 25C
010 : 8 : FAIRCHILD SEMI : N/R : N/R : N/R : 1500 : 100 PF : 1 : GN : PASS : 1000 : 1 : N/R
FAILURE CRITERIA: 1IH, 1IL, ISS OUT OF SPEC
011 : 4 : NATIONAL SEMI : N/R : N/R : AUG 78 : 1500 : 100 PF : 1 : GN : PASS : 200 : 5 : N/R
FAILURE CRITERIA: 1IH, 1IL, OR ISS OUT OF SPEC
011 : 5 : SOLID STATE SCIENTIFIC : N/R : N/R : AUG 78 : 1500 : 100 PF : 1 : GN : PASS : 200 : 5 : N/R
FAILURE CRITERIA: 1IH, 1IL, OR ISS OUT OF SPEC
012 : 5 : NATIONAL SEMI : N/R : N/R : AUG 78 : 1500 : 100 PF : 1 : GN : PASS : 400 : 5 : N/R
FAILURE CRITERIA: 1IH, 1IL, OR ISS OUT OF SPEC
012 : 6 : SOLID STATE SCIENTIFIC : N/R : N/R : AUG 78 : 1500 : 100 PF : 1 : GN : PASS : 400 : 5 : N/R
FAILURE CRITERIA: 1IH, 1IL, OR ISS OUT OF SPEC
013 : 5 : NATIONAL SEMI : N/R : N/R : AUG 78 : 1500 : 100 PF : 1 : GN : PASS : 600 : 5 : N/R
FAILURE CRITERIA: 1IH, 1IL, OR ISS OUT OF SPEC
013 : 6 : SOLID STATE SCIENTIFIC : N/R : N/R : AUG 78 : 1500 : 100 PF : 1 : GN : FAIL : 600 : 5 : N/R
FAILURE CRITERIA: 1IH, 1IL, OR ISS OUT OF SPEC

4050B BUFFER/INVERTER, HEX BUFFER/CONVERTER

030 : 426 : N/R : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1000 : 1 : N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%
030 : 427 : N/R : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1000 : 1 : N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

4051B LINEAR MULTIPLEXER, 8 CHANNEL

030 : 428 : N/R : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1000 : 1 : N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%
030 : 429 : N/R : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1000 : 1 : N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

4052B LINEAR MULTIPLEXER, 4 CHANNEL

030 : 430 : N/R : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1000 : 1 : N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%
030 : 431 : N/R : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1000 : 1 : N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

[illegible]

MULTIVIBRATOR, MONOSTABLE/ASTABLE

FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

BUFFER/INVERTER, HEX BUFFER/CONVERTER

24 : N/R : 4049UB

FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

I : NATIONAL SEAT : N/R : N/R

2 : NATIONAL SEX : N/K

3 - NATIONAL SPAY

4 : NATIONAL SEMI : N/R : N/R :

FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT

FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT

2 : NATIONAL SEMI : N/R : N/R :

I :: NATIONAL SETI

2. NATIONAL SEMINAR ON FUNCTION FAILURE OF D.C. FARMMEIER

1 : NATIONAL SEMI : CD4049CN : N/R :

2 : ANALYTICAL UNIT

FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT

3 : NATIONAL SEMI : CD4049CN : N/R :

FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT

1 : SOLID STATE SCIENTIFIC : N/R : N/R

REMARK: DIFFERENT PIN COMB. TESTED AT EACH VOLTAGE STEP

2 : SOLID STATE SCIENTIFIC : N/R : N/k :

6 : FAIRCHILD SEMI : N/R : N/R :

FAILURE CRITERIA: I IN, I IL, ISS OUT OF SPEC

FAILURE CRITERIA: 1 IN, 1 IL, 1 SS OUT OF SPEC

[illegible]

FAILURE CRITERIA: 1 IN. ILL. ISS OUT OF SPEC

6 : PAIRCHILD SEMI : N/R : N/R

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[illegible]

4053B SWITCH, 3XS PDT

0066 SWITCH . QUAD BILATERAL

066B SWITCH, 4XSPST

0673 LINEAR MULTIPLEXER - 16 CHANNEL

030 : 436 : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1000 : 1 : N/R

FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

TECHNOLOGY: CMOS
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION	SERIAL : SEQ. : CODE : NUM. :	MANUFACTURER :	FULL PART NUM. :	DATE : TEST : : CODE : DATE :	RES. : : (OHMS) :	CAP. : : PULSES :	TYPE : : RESULT :	VOLTAGE : : DEV. :	PIN COMBINATION
40678	LINEAR MULTIPLIER , 16 CHANNEL									
030	437 : N/R : 40678C : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1000 : 1 : N/R									
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%									
40688	GATE , 8 INPUT NAND									
030	436 : N/R : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1000 : 1 : N/R									
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%									
030	439 : N/R : 40688C : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1000 : 1 : N/R									
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%									
40699	BUFFER/INVERTER , HEX INVERTER									
030	442 : N/R : 40699B : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1000 : 1 : N/R									
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%									
165	3 : FAIRCHILD SEMI : N/R : 7523 : JUN 76 : 1500 : 100 PF : 1 : CN : PASS : 400 : 2 : N/R									
	REMARK: BREAKDOWN VOLTAGE CHARACTERISTICS WERE DEGRADED. FAILURE CRITERIA: FUNCTIONAL FAILURE									
165	10 : SOLID STATE SCIENTIFIC : N/R : 7530 : JUN 76 : 1500 : 100 PF : 1 : CN : PASS : 400 : 2 : N/R									
	REMARK: BREAKDOWN VOLTAGE CHARACTERISTICS WERE DEGRADED. FAILURE CRITERIA: FUNCTIONAL FAILURE									
40698	BUFFER/INVERTER , HEX INVERTER									
030	440 : N/R : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1000 : 1 : N/R									
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%									
030	441 : N/R : 40698C : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1000 : 1 : N/R									
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%									
089	1 : NATIONAL SEMI : CD40698 : N/R : FEB 78 : 1500 : 150 PF : 1 : SS : FAIL : 960 : 3 : VDD(+) GATE(-)									
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC									
089	2 : NATIONAL SEMI : CD40698 : N/R : FEB 78 : 1500 : 150 PF : 1 : SS : FAIL : 1300 : 10 : VDD(+) GATE(-)									
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC									
089	3 : NATIONAL SEMI : CD40698 : N/R : FEB 78 : 1500 : 150 PF : 1 : SS : FAIL : 1600 : 10 : VDD(+) GATE(-)									
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC									
089	4 : NATIONAL SEMI : CD40698 : N/R : FEB 78 : 1500 : 150 PF : 1 : SS : PASS : 1600 : 2 : VDD(+) GATE(-)									
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC									
40698	BUFFER/INVERTER , HEX INVERTER									
088	1 : RCA : CD40698B : N/R : FEB 78 : 1500 : 150 PF : 1 : SS : FAIL : 730 : 3 : VDD(+) GATE(-)									
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC									
088	2 : RCA : CD40698B : N/R : FEB 78 : 1500 : 150 PF : 1 : SS : FAIL : 1080 : 10 : VDD(+) GATE(-)									
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC									
088	3 : RCA : CD40698B : N/R : FEB 78 : 1500 : 150 PF : 1 : SS : FAIL : 1510 : 10 : VDD(+) GATE(-)									
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC									
088	4 : RCA : CD40698B : N/R : FEB 78 : 1500 : 150 PF : 1 : SS : PASS : 1510 : 2 : VDD(+) GATE(-)									
	FAILURE CRITERIA: FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC									
4070	GATE , QUAD EXCLUSIVE OR									
165	4 : FAIRCHILD SEMI : N/R : 7602 : JUN 76 : 1500 : 100 PF : 1 : CN : PASS : 400 : 2 : N/R									
	REMARK: BREAKDOWN VOLTAGE CHARACTERISTICS WERE DEGRADED. FAILURE CRITERIA: FUNCTIONAL FAILURE									

TECHNOLOGY: CMOS
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

SEC. : SEQ. : : DATE : TEST : RES. : : NUMBER : TEST : : : : :
CODE : MIN. : MANUFACTURE : : FULL PART NUM. : CODE : DATE : (OHMS) : CAP. : PULSES : TYPE : RESULT : VOLTAGE : DEV. : : : : : PIN COMBINATION

4071B GATE, QUAD 2 INPUT OR

030 : 443 : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1000 : 1 : N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%
030 : 444 : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1000 : 1 : N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

4073B GATE, TRIPLE 3 INPUT AND

030 : 445 : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1000 : 1 : N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%
030 : 446 : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1000 : 1 : N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

4076B FLIP-FLOP, QUAD D

030 : 447 : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1000 : 1 : N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%
030 : 448 : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1000 : 1 : N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

4077B GATE, QUAD EXCLUSIVE NOR

030 : 449 : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1000 : 1 : N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%
030 : 450 : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1000 : 1 : N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

4081B GATE, QUAD 2 INPUT AND

030 : 451 : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1000 : 1 : N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%
030 : 452 : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1000 : 1 : N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%
162 : 1 : RCA : N/R : N/R : 610 : 100 PF : 1 : SS : PASS : 4500 : 2 : INPUT(1)(+)
FAILURE CRITERIA: FUNCTIONAL FAILURE
162 : 2 : RCA : N/R : N/R : 610 : 100 PF : 1 : SS : FAIL : 4500 : 2 : INPUT(1)(-)
FAILURE CRITERIA: FUNCTIONAL FAILURE
162 : 3 : RCA : N/R : N/R : 610 : 100 PF : 1 : SS : FAIL : 4500 : 2 : OUTPUT(4)(+)
FAILURE CRITERIA: FUNCTIONAL FAILURE
162 : 4 : RCA : N/R : N/R : 610 : 100 PF : 1 : SS : PASS : 4500 : 1 : OUTPUT(4)(-)
REMARK: DEGRADATION OCCURRED AT 4500V.
162 : 5 : RCA : N/R : N/R : 610 : 100 PF : 1 : SS : PASS : 4500 : 1 : OUTPUT(4)(-)
FAILURE CRITERIA: FUNCTIONAL FAILURE
162 : 6 : RCA : N/R : N/R : 610 : 100 PF : 1 : SS : PASS : 4500 : 2 : VSS(7)(+)
FAILURE CRITERIA: FUNCTIONAL FAILURE
162 : 7 : RCA : N/R : N/R : 610 : 100 PF : 1 : SS : FAIL : 4000 : 1 : VSS(7)(-)
FAILURE CRITERIA: FUNCTIONAL FAILURE
162 : 8 : RCA : N/R : N/R : 610 : 100 PF : 1 : SS : PASS : 4500 : 1 : VSS(7)(-)
REMARK: DEGRADATION OCCURRED AT 3500V.
FAILURE CRITERIA: FUNCTIONAL FAILURE

BASIC PART NUMBER	DESCRIPTION	SEC. : SEQ. : CODE : NUM. :	MANUFACTURER	FULL PART NUM. :	DATE : TEST : RES. : : CODE : DATE : (OHMS) :	CAP. : PULSES : TYPE : RESULT : : : : : VOLTAGE : DEV. :	MIN. : : : : : : : : : : : : : : : :	PLN COMBINATION
44081B	GATE , QUAD 2 INPUT AND							
162	9 : MEA		CD4081B	N/R : N/R : 610 : 100 PF :	1 : SS : PASS :	4500 :	2 : VDD(14)(+)	
162	10 : MEA		CD4081B	N/R : N/R : 610 : 100 PF :	1 : SS : PASS :	4500 :	2 : VDD(14)(-)	
44082B	GATE , DUAL 4 INPUT AND							
030	453 : N/R		N/R	N/R : N/R : 1500 : 100 PF :	1 : N/R : FAIL :	1000 :	1 : N/R	
030	454 : N/R		4082BC	N/R : N/R : 1500 : 100 PF :	1 : N/R : FAIL :	1000 :	1 : N/R	
44085B	GATE , DUAL AND/OR INVERT							
030	455 : N/R		N/R	N/R : N/R : 1500 : 100 PF :	1 : N/R : FAIL :	1000 :	1 : N/R	
030	456 : N/A		4085BC	N/R : N/R : 1500 : 100 PF :	1 : N/R : FAIL :	1000 :	1 : N/R	
44086B	GATE , AND/OR INVERT							
030	457 : N/R		N/R	N/R : N/R : 1500 : 100 PF :	1 : N/R : FAIL :	1000 :	1 : N/R	
030	458 : N/R		4086BC	N/R : N/R : 1500 : 100 PF :	1 : N/R : FAIL :	1000 :	1 : N/R	
44093B	GATE , QUAD 2 INPUT NAND							
006	5 : NATIONAL SEMI		CD4093	N/R : AUG 78 : 1500 : 100 PF :	1 : SS : FAIL :	2000 :	1 : INPUT(9)(+) OUT(10)(-)	
006	6 : NATIONAL SEMI		CD4093	N/R : AUG 78 : 1500 : 100 PF :	1 : SS : FAIL :	2500 :	2 : INPUT(13)(+) OUT(11)	
006	7 : NATIONAL SEMI		CD4093	N/R : AUG 78 : 1500 : 100 PF :	1 : SS : FAIL :	1500 :	1 : INPUT(5)(+) OUT(4)(-)	
44093B	GATE , QUAD 2 INPUT NAND							
030	459 : N/R		N/R	N/R : N/R : 1500 : 100 PF :	1 : N/R : FAIL :	1000 :	1 : N/R	
030	460 : N/R		4093BC	N/R : N/R : 1500 : 100 PF :	1 : N/R : FAIL :	1000 :	1 : N/R	
44099B	LATCH , 8-BIT ADDRESSABLE							
030	461 : N/R		N/R	N/R : N/R : 1500 : 100 PF :	1 : N/R : FAIL :	1000 :	1 : N/R	

TECHNOLOGY: CHOS
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION	SER. : SEQ. : CODE : MIN. :	MANUFACTURER	FULL PART NUM. :	TEST : RES. : DATE : CODE :	CAP. : (OHMS) :	NUMBER : TEST : PULSES : TYPE :	VOLTAGE : DEV. : RESULT :	PIN CONFORMATION
4502B	BUFFER/INVERTER, HEX INVERTER								
030	462 : N/R : FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10Z			N/R : N/R : : N/R :	1500 : 100 PF : : 100 PF :	1 : N/R : : 1 :	FAIL : : 1000 :	1 : : 1 :	N/R : : N/R :
030	463 : N/R : FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10Z			N/R : N/R : : N/R :	1500 : 100 PF : : 100 PF :	1 : N/R : : 1 :	FAIL : : 1000 :	1 : : 1 :	N/R : : N/R :
4503B	BUFFER/INVERTER, HEX BUFFER, 3-STATE								
030	464 : N/R : FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10Z			N/R : N/R : : N/R :	1500 : 100 PF : : 100 PF :	1 : N/R : : 1 :	FAIL : : 1000 :	1 : : 1 :	N/R : : N/R :
030	465 : N/R : FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10Z			N/R : N/R : : N/R :	1500 : 100 PF : : 100 PF :	1 : N/R : : 1 :	FAIL : : 1000 :	1 : : 1 :	N/R : : N/R :
4508B	LATCH, DUAL 4-BIT								
030	466 : N/R : FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10Z			N/R : N/R : : N/R :	1500 : 100 PF : : 100 PF :	1 : N/R : : 1 :	FAIL : : 1000 :	1 : : 1 :	N/R : : N/R :
030	467 : N/R : FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10Z			N/R : N/R : : N/R :	1500 : 100 PF : : 100 PF :	1 : N/R : : 1 :	FAIL : : 1000 :	1 : : 1 :	N/R : : N/R :
4511	DECODER, LATCH/DECODER/DRIVER								
006	21 : RCA REMARK: DIFFERENT PIN COMB. TESTED AT EACH VOLTAGE STEP			N/R : AUG 78 : : N/R :	1500 : 100 PF : : 100 PF :	1 : SS : : 1 :	FAIL : : 1500 :	2 : : 2 :	INPUT(6)(+) OUT(10)(-) : : INPUT(6)(+) OUT(10)(-) :
006	22 : RCA REMARK: DIFFERENT PIN COMB. TESTED AT EACH VOLTAGE STEP			N/R : AUG 78 : : N/R :	1500 : 100 PF : : 100 PF :	1 : SS : : 1 :	FAIL : : 2000 :	1 : : 1 :	INPUT(7)(+) OUT(9)(-) : : INPUT(7)(+) OUT(9)(-) :
4511B	DECODER, LATCH/DECODER/DRIVER								
030	468 : N/R : FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10Z			N/R : N/R : : N/R :	1500 : 100 PF : : 100 PF :	1 : N/R : : 1 :	FAIL : : 1000 :	1 : : 1 :	N/R : : N/R :
030	469 : N/R : FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10Z			N/R : N/R : : N/R :	1500 : 100 PF : : 100 PF :	1 : N/R : : 1 :	FAIL : : 1000 :	1 : : 1 :	N/R : : N/R :
4512B	MULTIPLEXER, 8-CHANNEL								
030	470 : N/R : FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10Z			N/R : N/R : : N/R :	1500 : 100 PF : : 100 PF :	1 : N/R : : 1 :	FAIL : : 1000 :	1 : : 1 :	N/R : : N/R :
030	471 : N/R : FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10Z			N/R : N/R : : N/R :	1500 : 100 PF : : 100 PF :	1 : N/R : : 1 :	FAIL : : 1000 :	1 : : 1 :	N/R : : N/R :
4514B	DECODER, 4 TO 16 LINE								
030	472 : N/R : FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10Z			N/R : N/R : : N/R :	1500 : 100 PF : : 100 PF :	1 : N/R : : 1 :	FAIL : : 1000 :	1 : : 1 :	N/R : : N/R :
030	473 : N/R : FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10Z			N/R : N/R : : N/R :	1500 : 100 PF : : 100 PF :	1 : N/R : : 1 :	FAIL : : 1000 :	1 : : 1 :	N/R : : N/R :

[illegible]

SEQ.:	SEQ.:	DATE :	TEST :	RES. :	CAP. :	PULSES :	TYPE :	RESULT :	VOLTAGE :	DEV. :	NUM. :
NUM.:	NUM.:	CODE :	DATE :	(OHMS) :	FULL PART NUM. :						
MANUFACTURER											
PIN COMBINATION											

4515B DECODEX, 4 TO 16 LINE

030 : 474 : N/R : 4515BC : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1000 : 1 : N/R

FAILING CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

4516# COUNTER, BINARY UP/DOWN

030 : 475 : N/R : 45168C : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1000 : 1 :
 RADIUS CRITERIA : PARAMETER CHANGE OF GREATER THAN 10%

4518B COUNTER, DUAL SYNCHROUS

	N/R	:	N/R	:	N/R	:	100 PF :	1500 :	N/R :	N/R :	1 :	N/R :	FAIL :	1000 :	1 :	N/R :
030	: 476 :	N/2	:	N/R	:	N/R	:	100 PF :	1500 :	N/R :	N/R :	1 :	N/R :	FAIL :	1000 :	1 :
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%																
	N/R	:	N/R	:	N/R	:	100 PF :	1500 :	N/R :	N/R :	1 :	N/R :	FAIL :	1000 :	1 :	N/R :

030 : 477 : N/R : 4518BC : N/R :
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

4519B GATE, QUAD AND-OR SELECT

030 : 478 : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1000 : 1 :
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

030 : 479 : N/R : 4519BC : N/R :
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

45208 COUNTER . DUAL SYNCHRONOUS

030 : 480 : N/R ; N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1000 : 1 :

CHANCE OF GREATER THAN 10%

030 : 481 : N/R : 4520BC
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%
SAYING CR. *FRIA: PARAMETER CHANGE OF GREATER THAN 10%
N/R :

4528B MULTIVIBRATOR - DUAL MONOSTABLE

[illegible]

FALLAGE CRITERIA: INDICATOR : N/R
030 : 483 : N/R : 4528BC
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

4539B MULTIPLEXER, DUAL 4-CHANNEL

030 : 484 : N/R : N/k : N/R : N/R : 1500 : 100 PF : 1 : N/R : FALL : 1000 : 1 :

WATTING COTESTER. A. PARAMETER CHANGE OF GREATER THAN 10%

N/R

030 : 485 : N/R : 4539BC : N/K : N/K

1854 SSI/SSI 4-BIT ALU

	N/K	N/R	N/R	1500 : N/R	100 PF	1 : N/R	FAIL : 1000	1 :
0.30	488 :							
FAILING CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%								
0.30	488 :							

030 : 489 : N/R : 4581BC : N/K : N/K

TECHNOLOGY: CMOS
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION	SEC. : SEQ. :	DATE : TEST : RES. :	NUMBER : TEST :	NUM. :
CODE : NUM. :	MANUFACTURER :	FULL PART NUM. :	CODE : DATE : (OHMS) :	CAP. : PULSES : TYPE : RESULT : VOLTAGE : DEV. :	PIN COMBINATION
45858	COMPARATOR , 4-BIT				
030	490 : N/R	N/R	N/R : N/R : 1500 : 100 PF :	1 : N/R : FAIL :	1000 : 1 : N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%				
030	491 : N/R	N/R	N/R : N/R : 1500 : 100 PF :	1 : N/R : FAIL :	1000 : 1 : N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%				
4724	LATCH , 8 BIT ADDRESSABLE				
165	8 : FAIRCHILD SEMI	N/R	7603 : JUN 76 : 1500 : 100 PF :	1 : GN : PASS :	400 : 2 : N/R
	REMARK: BREAKDOWN VOLTAGE CHARACTERISTICS WERE DEGRADED.			FAILURE CRITERIA: FUNCTIONAL FAILURE	
506	LINEAR MULTIPLEXER , 16 CHANNEL				
030	314 : N/R	N/R	N/R : N/R : 1500 : 100 PF :	1 : N/R : FAIL :	1000 : 1 : N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%				
508	LINEAR MULTIPLEXER , 8 CHANNEL				
030	315 : N/R	N/R	N/R : N/R : 1500 : 100 PF :	1 : N/R : FAIL :	1000 : 1 : N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%				
6514	STATIC RAM , 1024X1 BIT				
055	1 : NATIONAL SEMI	N/R	N/R : JUN 81 : 1000 : 200 PF :	5 : GN : PASS :	250 : 2 : LID TO ALL PINS
	REMARK: 5 PULSES PER POLARITY. DEVICES HAD METAL LID			FAILURE CRITERIA: FUNCTIONAL FAILURE	
056	1 : NATIONAL SEMI	N/R	N/R : JUN 81 : 1000 : 200 PF :	5 : GN : PASS :	500 : 2 : LID TO ALL PINS
	REMARK: 5 PULSES PER POLARITY. DEVICES HAD METAL LID			FAILURE CRITERIA: FUNCTIONAL FAILURE	
057	1 : NATIONAL SEMI	N/R	N/R : JUN 81 : 1000 : 200 PF :	5 : GN : PASS :	1000 : 2 : LID TO ALL PINS
	REMARK: 5 PULSES PER POLARITY. DEVICES HAD METAL LID			FAILURE CRITERIA: FUNCTIONAL FAILURE	
058	1 : NATIONAL SEMI	N/R	N/R : JUN 81 : 1000 : 200 PF :	5 : GN : FAIL :	2000 : 2 : LID TO ALL PINS
	REMARK: 5 PULSES PER POLARITY. DEVICES HAD METAL LID			FAILURE CRITERIA: FUNCTIONAL FAILURE	
059	1 : NATIONAL SEMI	N/R	N/R : JUN 81 : 1000 : 200 PF :	5 : GN : FAIL :	4000 : 2 : LID TO ALL PINS
	REMARK: 5 PULSES PER POLARITY. DEVICES HAD METAL LID			FAILURE CRITERIA: FUNCTIONAL FAILURE	
002	1 : MONOLITHIC MEMORIES	N/A	N/R : JUN 79 : 1500 : 100 PF :	1 : SS : FAIL :	1500 : 1 : N/R
	FAILURE CRITERIA: DAMAGE TO INPUT DIODE				
002	2 : RCA	N/R	N/R : JUN 79 : 1500 : 100 PF :	1 : SS : FAIL :	1400 : 1 : N/R
	FAILURE CRITERIA: DAMAGE TO INPUT DIODE				
6518	RAM , 1K				
028	11 : N/A	N/R	N/R : N/R : 1500 : 117 PF :	30 : SS : FAIL :	750 : 5 : N/R
	FAILURE CRITERIA: INPUTS SHORTED TO GROUND				
7520	CONVERTER (D/A A/D) , 10 BIT HULT. DAC				
030	519 : N/R	N/R	N/R : N/R : 1500 : 100 PF :	1 : N/R : FAIL :	1000 : 1 : N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%				
030	520 : N/R	N/R	N/R : N/R : 1500 : 100 PF :	1 : N/R : FAIL :	1000 : 1 : N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%				

TECHNOLOGY: CHOS
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

SERIAL : SEQ. : MANUFACTURER : DATE : TEST : RES. : NUMBER : TEST : : NUM. :
CODE : PART : FULL PART NUM. : CODE : DATE : (OHMS) : CAP. : PULSES : TYPE : RESULT : VOLTAGE : DEV. : PIN COMBINATION

CONVERTER (D/A A/D), 10 BIT MULT. DAC

7520	CONVERTER (D/A A/D), 10 BIT MULT. DAC	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
030	648 : AD7520 : FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%									
005	7 : MICRO POWER SYSTEMS : 7520TA : REMARK: ALL 10 INPUTS FAILED TO VSS AT 800 VOLTS	8008 : SEP 80 : 1500 : 100 PF : 1 : SS : FAIL : 800 : 1 : INPUT(4) VSS(-)								
005	8 : MICRO POWER SYSTEMS : 7520TA : REMARK: ALL 10 INPUTS FAILED TO VSS AT 800 VOLTS	8008 : SEP 80 : 1500 : 100 PF : 1 : SS : FAIL : 800 : 1 : INPUT(4)(+) VSS(3)(-)								
005	9 : MICRO POWER SYSTEMS : 7520TA : REMARK: ALSO FAILED FROM ALL OTHER INPUTS TO VSS AT 800 VOLTS.	8008 : SEP 80 : 1500 : 100 PF : 1 : SS : FAIL : 500 : 1 : INPUT(9)(+) VSS(3)(-)								
005	10 : MICRO POWER SYSTEMS : 7520TA : REMARK: ALSO FAILED FROM INPUT PINS 5, 6, 8-13 TO VSS AT 800 VOLTS	8008 : SEP 80 : 1500 : 100 PF : 1 : SS : FAIL : 800 : 1 : INPUT(4)(+) VSS(3)(-)								
005	11 : MICRO POWER SYSTEMS : 7520TA : REMARK: ALSO FAILED FROM PINS 4-8 AND 11-13 TO VSS AT 800 VOLTS	8008 : SEP 80 : 1500 : 100 PF : 1 : SS : FAIL : 500 : 1 : INPUT(9)(+) VSS(3)(-)								
005	12 : MICRO POWER SYSTEMS : 7520TA : REMARK: ALSO FAILED FROM PINS 8-13 TO VSS AT 800 VOLTS	8008 : SEP 80 : 1500 : 100 PF : 1 : SS : FAIL : 800 : 1 : INPUT(6)(+) VSS(3)(-)								
005	13 : ANALOG DEVICES : AD7520 : REMARK: ALSO FAILED FROM PINS 5-8 AND 10-13 TO VSS AND PIN 9 TO VDD AT 500 VOLTS	7947 : SEP 80 : 1500 : 100 PF : 1 : SS : FAIL : 500 : 1 : INPUT(4)(+) VSS(3)(-)								
005	14 : ANALOG DEVICES : AD7520 : REMARK: ALSO FAILED PINS 5-7, 9, 11 TO VSS, 8, 10, 12 TO VDD AT 500 VOLTS AND PINS 13 TO VSS AT 800V	7947 : SEP 80 : 1500 : 100 PF : 1 : SS : FAIL : 500 : 1 : INPUT(4)(+) VSS(3)(-)								
005	15 : ANALOG DEVICES : AD7520 : REMARK: ALSO FAILED FROM PINS 5-13 TO VSS AT 800 VOLTS	7947 : SEP 80 : 1500 : 100 PF : 1 : SS : FAIL : 500 : 1 : INPUT(4)(+) VDD(14)(-)								
005	16 : ANALOG DEVICES : AD7520 : REMARK: ALSO FAILED FROM 5, 6 & 7 TO VSS AT 800 VOLTS	7947 : SEP 80 : 1500 : 100 PF : 1 : SS : FAIL : 800 : 1 : INPUT(4)(+) VSS(3)(-)								
005	17 : ANALOG DEVICES : AD7520 : REMARK: ALSO FAILED PINS 5-6 & 11-13 TO VSS, PIN 7 TO VDD AND PINS 8-10 TO OUTPUT AT 500V	7947 : SEP 80 : 1500 : 100 PF : 1 : SS : FAIL : 500 : 1 : INPUT(4)(+) VSS(3)(-)								
005	18 : ANALOG DEVICES : AD7520 : REMARK: ALSO FAILED PINS 5-8, 10-13 TO VSS AT 500 VOLTS AND PIN 9 TO VSS AT 800V	7947 : SEP 80 : 1500 : 100 PF : 1 : SS : FAIL : 500 : 1 : INPUT(4)(+) VSS(3)(-)								
005	19 : INTERSIL : AD7520 : REMARK: ALSO FAILED PINS 5 AND 10 TO VDD AT 800 VOLTS	8006 : SEP 80 : 1500 : 100 PF : 1 : SS : FAIL : 800 : 1 : REF(15)(+) VSS(3)(-)								
005	20 : INTERSIL : AD7520 : REMARK: ALSO FAILED PIN 16 TO VDD AT 500 VOLTS AND PIN 5 TO VSS AT 800 VOLTS	8006 : SEP 80 : 1500 : 100 PF : 1 : SS : FAIL : 500 : 1 : INPUT(8)(+) VDD(14)(-)								
005	21 : INTERSIL : AD7520 : REMARK: ALSO FAILED PINS 4, 5 & 9 TO VSS AT 800 VOLTS	8006 : SEP 80 : 1500 : 100 PF : 1 : SS : FAIL : 500 : 1 : RFB(16)(+) VDD(14)(-)								
005	22 : INTERSIL : AD7520 : REMARK: ALSO FAILED FROM PINS 4, 8, 13 TO VDD AND 10 TO OUTPUT AT 500 VOLTS	8006 : SEP 80 : 1500 : 100 PF : 1 : SS : FAIL : 500 : 1 : RFB(16)(+) VSS(3)(-)								
005	23 : INTERSIL : AD7520 : REMARK: ALSO FAILED PINS 8, 13 TO VSS, 15 TO VSS AND 6 TO VDD, ALL AT 800 VOLTS	8006 : SEP 80 : 1500 : 100 PF : 1 : SS : FAIL : 800 : 1 : INPUT(4)(-) VSS(3)(-)								
005	24 : INTERSIL : AD7520 : REMARK: ALSO FAILED PIN 13 TO VDD AT 500 VOLTS, 8 TO VSS, 6 TO VDD AT 800 VOLTS	8006 : SEP 80 : 1500 : 100 PF : 1 : SS : FAIL : 500 : 1 : RFB(16)(+) VSS(3)(-)								

CONVERTER (D/A A/D), 12 BIT MULT. DAC

7521	CONVERTER (D/A A/D), 12 BIT MULT. DAC	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
030	521 : 7521LN : FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%									
005	31 : RAYTHEON : RN7521TD : REMARK: ALSO FAILED PIN 12 TO VDD AT 500 VOLTS	8006 : SEP 80 : 1500 : 100 PF : 1 : SS : FAIL : 500 : 1 : RFB(818)(+) VSS(-)								
005	32 : RAYTHEON : RN7521TD : REMARK: FAILED PINS 8-15 TO VSS AT 500V, PIN 11 TO OUTPUT AT 500V & 15 TO VSS AT 800V	8006 : SEP 80 : 1500 : 100 PF : 1 : SS : FAIL : 500 : 1 : INPUT(7)(+) VSS(-)								

TECHNOLOGY: CHOS
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

SEC. : CODE : NUM. :	MANUFACTURER	FULL PART NUM. :	DATE : TEST : RES. :	NUMBER : TEST :	PULSES : TYPE : RESULT : VOLTAGE : DEV. :	PIN COMBINATION
7521	CONVERTER (D/A A/D), 12 BIT MULT. DAC					
005 :	33 : RAYTHEON	RM7521	8006 : SEP 80 : 1500 : 100 PF :	1 : SS : FAIL :	500 : 1 : RREF(17)(+) VSS(-)	
	REMARK: ALSO FAILED PIN 9 TO VSS AT 800 VOLTS		FAILURE CRITERIA: PARAMETER SHIFT OF GREATER THAN 10%			
005 :	34 : RAYTHEON	RM7521TD	8006 : SEP 80 : 1500 : 100 PF :	1 : SS : FAIL :	500 : 1 : RFS(18)(+) VSS(-)	
	FAILURE CRITERIA: PARAMETER SHIFT OF GREATER THAN 10%					
005 :	35 : RAYTHEON	RM7521TD	8006 : SEP 80 : 1500 : 100 PF :	1 : SS : FAIL :	500 : 1 : RREF(17)(+) VSS(-)	
	FAILURE CRITERIA: PARAMETER SHIFT OF GREATER THAN 10%					
005 :	36 : NATIONAL SEMI	AD7521SD	8018 : SEP 80 : 1500 : 100 PF :	1 : SS : FAIL :	800 : 1 : INPUT(6)(+) VSS(-)	
	REMARK: FAILED PINS 11-14 TO VSS, 15 TO VDD AT 800V, PIN 10 TO VDD, 8, 13 TO OUT. AT 1000		FAILURE CRITERIA: PARAMETER SHIFT OF GREATER THAN 10%			
005 :	37 : NATIONAL SEMI	AD7521SD	8018 : SEP 80 : 1500 : 100 PF :	1 : SS : FAIL :	800 : 1 : INPUT(6)(+) VSS(-)	
	REMARK: FAILED PINS 13 TO VSS, PIN 9 TO VSS AT 1000V, AND PIN 8 TO VDD AT 1000V		FAILURE CRITERIA: PARAMETER SHIFT OF GREATER THAN 10%			
005 :	38 : NATIONAL SEMI	AD7521SD	8018 : SEP 80 : 1500 : 100 PF :	1 : SS : FAIL :	800 : 1 : INPUT(6)(+) VDD(-)	
	REMARK: FAILED PINS 13 TO VDD AND PIN 4 TO OUTPUT AT 800 VOLTS		FAILURE CRITERIA: PARAMETER SHIFT OF GREATER THAN 10%			
005 :	39 : NATIONAL SEMI	AD7521SD	8018 : SEP 80 : 1500 : 100 PF :	1 : SS : FAIL :	800 : 1 : RFS(18)(+) OUTPUT(-)	
	REMARK: ALSO FAILED PIN 9 TO VDD AND 8 TO OUTPUT AT 1000 VOLTS		FAILURE CRITERIA: PARAMETER SHIFT OF GREATER THAN 10%			
005 :	40 : NATIONAL SEMI	AD7521SD	8018 : SEP 80 : 1500 : 100 PF :	1 : SS : FAIL :	800 : 1 : INPUT(7)(+) OUTPUT(-)	
	FAILURE CRITERIA: PARAMETER SHIFT OF GREATER THAN 10%					
005 :	41 : NATIONAL SEMI	AD7521SD	8018 : SEP 80 : 1500 : 100 PF :	1 : SS : FAIL :	800 : 1 : INPUT(4)(+) VDD(-)	
	REMARK: ALSO FAILED PIN 9 TO OUTPUT AT 800 VOLTS		FAILURE CRITERIA: PARAMETER SHIFT OF GREATER THAN 10%			
7522	CONVERTER (D/A A/D), 10 BIT MULT. DAC					
030 :	522 : N/R	7522C	N/R : N/R : 1500 : 100 PF :	1 : N/R : FAIL :	1000 : 1 : N/R	
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%					
030 :	523 : N/R	7522JD	N/R : N/R : 1500 : 100 PF :	1 : N/R : FAIL :	1000 : 1 : N/R	
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%					
7533	CONVERTER (D/A A/D), 10 BIT MULT. DAC					
005 :	1 : ANALOG DEVICES	AD7533TD	7911 : SEP 80 : 1500 : 100 PF :	1 : SS : FAIL :	1000 : 1 : INPUT(4)(+) VDD(14)(-)	
	FAILURE CRITERIA: PARAMETER SHIFT OF GREATER THAN 10%					
005 :	2 : ANALOG DEVICES	AD7533TD	7911 : SEP 80 : 1500 : 100 PF :	1 : SS : FAIL :	1000 : 1 : INPUT(7)(+) VDD(14)(-)	
	FAILURE CRITERIA: PARAMETER SHIFT OF GREATER THAN 10%					
005 :	3 : ANALOG DEVICES	AD7533TD	7911 : SEP 80 : 1500 : 100 PF :	1 : SS : PASS :	1000 : 1 : N/R	
	FAILURE CRITERIA: PARAMETER SHIFT OF GREATER THAN 10%					
005 :	4 : ANALOG DEVICES	AD7533TD	7911 : SEP 80 : 1500 : 100 PF :	1 : SS : FAIL :	800 : 1 : INPUT(10)(+) OUTPUT(-)	
	REMARK: ALSO FAILED FROM PIN 7 TO OUTPUT AT 1000 VOLTS		FAILURE CRITERIA: PARAMETER SHIFT OF GREATER THAN 10%			
005 :	5 : ANALOG DEVICES	AD7533TD	7911 : SEP 80 : 1500 : 100 PF :	1 : SS : FAIL :	1000 : 1 : INPUT(6)(+) VDD(14)(-)	
	FAILURE CRITERIA: PARAMETER SHIFT OF GREATER THAN 10%					
005 :	6 : ANALOG DEVICES	AD7533TD	7911 : SEP 80 : 1500 : 100 PF :	1 : SS : FAIL :	1000 : 1 : INPUT(4)(+) VSS(-)	
	REMARK: ALSO FAILED FROM PINS 5, 6, 7, 11 TO VDD AT 1000 VOLTS		FAILURE CRITERIA: PARAMETER SHIFT OF GREATER THAN 10%			
N/R	BUFFER/INVERTER, HEX BUFFER					
041 :	33 : MOTOROLA SEMI		N/R : N/R : 1000 : 200 PF :	1 : SS : FAIL :	500 : 1 : N/R	
	FAILURE CRITERIA: 1 UA LEAKAGE AT 10V					
041 :	34 : MOTOROLA SEMI		N/R : N/R : 1000 : 200 PF :	1 : SS : FAIL :	800 : 1 : N/R	
	FAILURE CRITERIA: 1 UA LEAKAGE AT 10V					
N/R	BUFFER/INVERTER, HEX INVERTER					
014 :	1 : N/R		N/R : N/R : 100 : 100 PF :	1 : SS : FAIL :	320 : N/R : INPUT(+) VDD(-)	
	REMARK: 320 VOLTS IS AN AVERAGE FROM AN UNKNOWN NUMBER OF DEVICES.		FAILURE CRITERIA: GREATER THAN 10NA INPUT LEAKAGE AT VDD			

[illegible][illegible]

2102 STATIC RAM , 1KX1 BIT

041 : 11 : INTEL	: 2102A-2	: N/R : N/R : 1000 : 200 PF :	1 : SS : FAIL :	700 : 1 :	N/R
SAVING COUNTRY. 1 NA TRAWAY AT 101					

041 : 12 : INTEL : 2102A-2 : N/R : N/R : 1000 : 200 PP : 1 : SS : FAIL : 2000 : 1 : N/R

045 :	1 : INTEL	:	N/R :	N/R :	1000 :	200 PF :	4 :	SS :	FAIL :	1400 :	3 :	N/R
FAILURES CRITERIA: 1 ON LEAKAGE AT 10V : 2102A-2												

046 :	4 : INTEL	:	2102A-2	:	N/R :	N/R :	1000 :	200 PF :	200 :	CN :	PASS :	500 :	1 :	N/R
REMARK: 1400 VOLTS IS AN AVERAGE OF 3 DEVICES														
FAILURE CRITERIA: 1 UA LEAKAGE AT 10V														

FAILURE CRITERIA: 1 UA LEAKAGE AT 10V		N/R		N/R		N/R	
046	5 : SIGNETICS	20	500	20	500	20	500

FAILURES CRITERIA: 1 UA LEAKAGE AT 10V			
047 :	4 : INTEL	N/R : N/R	2102A-2
		25 : CN	FAIL : 1000 : 1 :
		200 PF :	
		1000 :	
		N/R :	
		1000 :	
		200 PF :	
		25 : CN	FAIL : 1000 : 1 :
		N/R :	
		2102A-2	

245	:	29 :	N/R	:	N/R	:	7645 :	N/R	:	.1 UP :	1 :	S8 :	FAIL :	45 :	15 :	INPUT(+)	GND(-)
-----	---	------	-----	---	-----	---	--------	-----	---	---------	-----	------	--------	------	------	----------	--------

FAILURE CRITERIA: 1 UA LEAKAGE AT 10V

0001 :	1 :	FAILCRITD SEMI	210211	M/R :	SEP 80 :	1500 :	100 PF :	3 :	SS :	FAIL :	300 :	2 :	M/R
REMARK: FAILURE VOLTAGE IS AN AVERAGE OF 15 DEVICES. FAILURE CRITERIA: D.C. PARAMETER OUT OF SPEC.													

001 :	2 :	FAIRCHILD SEMI	:	N/R :	SEP 80 :	1500 :	100 PF :	3 :	SS :	FAIL :	400 :	1 :	N/R
FAILURE CRITERIA: DAMAGE TO INPUT DIODE													
: 2102L1													

026 : 30 : INTEL : MD2102A-4 : N/R : FEB 81 : 100 : 200 PF : 1 : SS : FAIL : 535 : 4 : INPUT(1)(*) GND(9)(-)
FAILURE CRITERIA: DAMAGE TO INPUT DIODE
REMARK: VOLTAGE IS AN AVERAGE OF 4 DEVICES
FAILURE CRITERIA: CHANGE IN IIL OF 500% AT VIN = 5V

2111 STATIC RAM , 256X4 BIT

030	352 :	N/R	: 211A-4C	: N/R :	1500 :	100 PF :	1 :	N/R :	FAIL :	1000 :	1 :	N/R
EATING CRYSTALS, BARBARA, CHAIRMAN OF "EATING TEAM 100"												

WAT WILT U WETENEN IN GELUKKIG WITZEN? : LET WETENEN WETENEN

2141
STATIC RAM . 4096X1 BIT

0030 : 354 : W/R : W/R : 1500 : 100 PF : 1 : N/R : FAIL : 1000 : 1 : W/R

WATTING CRYSTALLITE. BASE MATERIALS PLUMMER AND CO. BOSTON. 1940

NOT MEET YOURS IN GROWING FREQUENTLY: VISITING WITH

102201, ELEC. ALTERABLE ROM, ELEC. ALTERABLE

[illegible]

ALICE IS NOTTINGTON JOURNAL: VITALITY TRIVIA

2516 EPDM 204578 IIT

0330 : 356 : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1000 : 1 : N/R

304 : 53 : N/R : N/R : N/R : 1000 : 200 PF : 1 : S3 : FAIL : 300 : 1 : EACH PIN(+)

RENTAL: AVAILABLE FOR ALL TYPES OF VEHICLE DAMAGE TO THE LOWEST COSTS

[illegible]

100627 ST SECURITY DATA ON PERSONS KNOWN OR SUSPECTED TO BE INVOLVED IN RECENT TERRORIST ACTS; SUBJECTS OF INTEREST TO THE FBI; AND OTHER INFORMATION OF INTEREST TO THE FBI. (U)

[illegible][illegible]

2708 EPROM, 1024X8 BIT

030	: 358 :	N/R	: 2708C	:	N/R :	1500 :	100 PF :	1 :	N/R : FAIL :	1000 :	1 :	N/R
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FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

```

384 : 43 : N/R : N/R : 1000 : 200 PP : 1 : SS : FAIL : 800 : 1 : EACH PTW(+)
```

REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 2600V.

FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.

CALLER NAME	CALLER NO.	DATE	TIME	STATUS	REMARKS
384	44	N/R	N/R	N/R	1 : SS : FAIL : 400 : 1 : EACH PIN(+)

REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 550V.

FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.

304 : 45 : N/R : N/R : 1000 : 200 PF : 1 : SS : FAIL : 1500 : 1 : EACH PIN(+)

REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 2600V.

FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.

```

384 : 46 : N/R : N/R : 1000 : 200 PF : 1 : SS : FAIL : 500 : 1 : EACH PIN(+)

```

REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 600V.

FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.

2716 EPROM, 2048X8 BIT

030 : 359 :	N/R	: 2716C	: N/R : N/R : 1500 : 100 PP :	1 : N/R : FAIL :	1000 :	1 :	N/R
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030 : 359 : N/R : 2/100 : N/R : FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

384	: 47 :	N/R	:	A, ?	: N/R :	1000 :	200 PF :	1 :	SS :	FAIL :	600 :	1 :	LACH PIM(+)
FAILURE CRITERIA: FRAGILE/CRACKS OF CRACKS AT THE JCT													

REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 2300V.

FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.

	FILAMENT VOLTAGE:	NOV0000716	WINDING CURRENT OR GUN CURRENT	REMARKS
384 :	48 :	N/R :	N/R :	1 : SS : FAIL : 3000 : 1 : EACH PIN(+)
384 :	48 :	N/R :	N/R :	1 : SS : FAIL : 3000 : 1 : EACH PIN(+)

REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 3900V.

REMARK: AVERAGE FAILURE VOLTAGE FOR ALL LINES ON AN UNKNOWN NUMBER OF FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.

2732 EPROM, 4096X8 BIT

```

: N/R : 49 : N/R : N/R : 1000 : 200 PF : 1 : SS : FAIL : 1500 : 1 : EACH PIN(+)
: N/R : 49 : N/R : N/R : 1000 : 200 PF : 1 : SS : FAIL : 1500 : 1 : EACH PIN(+)

```

REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 2700V.

REMARK: AVERAGE PRICING VOLTAGE FOR ALL LINES ON ANY UNKNOWN NUMBER OF DAYS.

FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT OR OPEN CONDUCTOR LINES."

FAILURE CATEGORIES. ENCLOSED ARE MATERIALS CURRENT ON OTHER COMMODITY LISTS.

384 : 50 : N/R : N/R : 1000 : 200 PF :

REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF

3870 MICROCOMPUTER, 8-BIT

```

134 : 1 : M08TX
      : MT3870/10 : N/R : 1500 : 100 PF : 1 : CN : FAIL : 1000 : 1 : PIN(23)(+) APTT(-)

```

134 :	1 :	M08TXX	:	N/R :	N/R :	1500 :	100 PF :	1 :	CN :	PASS :	1000 :	♠ :	EACH PIN(+) APT(-)
134 :	2 :	M08TXX	:	N/R :	N/R :	1500 :	100 PF :	1 :	CN :	PASS :	1000 :	♠ :	EACH PIN(+) APT(-)

136 :	2 :	HOSITEK	:	NR :	N/R :	1500 :	100 PF :	1 :	CN :	FAIL :	2000 :	5 :	EACH PIN(+) APTT(-)
137 :	1 :	HOSITEK	:	NR :	N/R :	1500 :	100 PF :	1 :	CN :	FAIL :	2000 :	5 :	EACH PIN(+) APTT(-)

138 :	1 : MOS TEK	:	M/R :	N/R :	100 PF :	1 :	CN :	PAIL :	3500 :	4 :	EACH PIN(+) APTT(-)
139 :	1 : MOS TEK	:	M/R :	N/R :	100 PF :	1 :	CN :	PAIL :	3500 :	4 :	EACH PIN(+) APTT(-)

3073 MICROCOMPUTER, 8-BIT

140 : 1 . MONTH : MT3873 : N/R : JUL 80 : 1300 : 100 PF : 1 : SS : FAIL : 300 : 24 : EACH PIN(+) APTT(-)

140 : 1 : HOSTEL : REMARK: 2.6% OF TOTAL NUMBER OF PINS FAILED.

REMARK: 2.0% OF TOTAL NUMBER OF PINS FAILED.

140 : 2 : MOSTLY : N/R : JUL 80 : 1300 : 100 PF : 3 : SS : FAIL : 300 : 15 : EACH PIN(+) APTT(-)

140 : 2 : MOSTLY : N/R : JUL 80 : 1300 : 100 PF : 3 : SS : FAIL : 300 : 15 : EACH PIN(+) APTT(-)

140 : Z : HOSTLER : HC5873
REMARK: 4.7% OF TOTAL NUMBER OF PINS FAILED:

[illegible]

3973 MICROCOMPUTER, 8-BIT

REMARK: 27.2% OF TOTAL NUMBER OF PINS FAILED.

4116 DYNAMIC RAM , 16384X1 BIT

		N/R
4 : TEXAS INSTRUMENTS	:	
FAILURE CRITERIA: 1 UA LEAKAGE AT 20V	:	
5 : MOSTEK	:	HK4116
FAILURE CRITERIA: 1 UA LEAKAGE AT 20V	:	
6 : MOSTEK	:	HK4116
FAILURE CRITERIA: 1 UA LEAKAGE AT 20V	:	
7 : MOSTEK	:	HK4116

VALUES CRITERIA: 1 UA LEASAGE AT 20V

1	: MOSTX	: MK4116H
2	: MOSTX	: MK4116H
3	: MOSTX	: MK4116H
4	: MOSTX	: MK4116H
1	: MOSTX	: MK4116H
2	: MOSTX	: MK4116H
3	: MOSTX	: MK4116H
1	: MOSTX	: MK4116H
2	: MOSTX	: MK4116H
2	: MOSTX	: MK4116H
3	: MOSTX	: MK4116H
4	: MOSTX	: MK4116H
5	: MOSTX	: MK4116H
1	: MOSTX	: MK4116H
2	: MOSTX	: MK4116H
1	: MOSTX	: MK4116
1	: MOSTX	: MK4116
1	: MOSTX	: MK4116
2	: MOSTX	: MK4116
1	: MOSTX	: MK4116
1	: MOSTX	: MK4116

416 DYNAMIC RAM - 16384X1 BIT

2 : SEC MICROCOMPUTERS	:	N/R
3 : FAILURE CRITERIA: 1 UA LEAKAGE AT 20V	:	N/R
2 : SEC MICROCOMPUTERS	:	N/A LEAKAGE AT 20V
3 : FAILURE CRITERIA: 1 UA LEAKAGE AT 20V	:	N/A LEAKAGE AT 20V
2 : SEC MICROCOMPUTERS	:	D416C
3 : FAILURE CRITERIA: 1 UA LEAKAGE AT 20V	:	D416C
2 : SEC MICROCOMPUTERS	:	D416C
3 : FAILURE CRITERIA: 1 UA LEAKAGE AT 20V	:	D416C

TECHNOLOGY: NMOS
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION	S.N.C. : SEQ. :	MANUFACTURER	FULL PART NUM. :	DATE :	TEST :	RES. :	NUMBER :	TEST :	MIN. :
CODE :	NUM. :				DATE :	TEST :	RES. :	PULSES :	TYPE :	VOLTAGE :
										DEV. :
										PIN COMINATION
4716	DYNAMIC RAM , 16384X1 BIT									
		130 :	1 : HITACHI	4716AP	N/R : JUL 80 : 1500 :	100 PF :	1 :	CM :	FAIL :	500 : 4 : EACH PIN(+) APPT(-)
		130 :	2 : HITACHI	4716AP	N/R : JUL 80 : 1500 :	100 PF :	1 :	CM :	PASS :	500 : 1 : EACH PIN(+) APPT(-)
		132 :	3 : HITACHI	4716AP	N/R : JUL 80 : 1500 :	100 PF :	1 :	CM :	FAIL :	700 : 5 : EACH PIN(+) APPT(-)
6800	MICROPROCESSOR , CPU									
		030 :	500 : N/R	6800C	N/R : N/R :	1500 :	100 PF :	1 :	N/R : FAIL :	1000 : 1 :
			FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%							
		030 :	501 : N/R	6800L	N/R : N/R :	1500 :	100 PF :	1 :	N/R : FAIL :	1000 : 1 :
			FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%							
		030 :	502 : N/R	6800P	N/R : N/R :	1500 :	100 PF :	1 :	N/R : FAIL :	1000 : 1 :
			FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%							
6802	MICROPROCESSOR , CPU INTERNAL CLOCK									
		030 :	503 : N/R	6802P	N/R : N/R :	1500 :	100 PF :	1 :	N/R : FAIL :	1000 : 1 :
			FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%							
6821	MICROPROCESSOR , PIA									
		030 :	504 : N/R	6821C	N/R : N/R :	1500 :	100 PF :	1 :	N/R : FAIL :	1000 : 1 :
			FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%							
		030 :	505 : N/R	6821P	N/R : N/R :	1500 :	100 PF :	1 :	N/R : FAIL :	1000 : 1 :
			FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%							
6828	MICROPROCESSOR , PRIORITY INTERRUPT									
		030 :	506 : N/R	N/R	N/R : N/R :	1500 :	100 PF :	1 :	N/R : FAIL :	1000 : 1 :
			FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%							
6844	MICROPROCESSOR , DMA CONTROLLER									
		030 :	507 : N/R	6844L	N/R : N/R :	1500 :	100 PF :	1 :	N/R : FAIL :	1000 : 1 :
			FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%							
6845	MICROPROCESSOR , CRT CONTROLLER									
		030 :	508 : N/R	6845L	N/R : N/R :	1500 :	100 PF :	1 :	N/R : FAIL :	1000 : 1 :
			FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%							
6850	MICROPROCESSOR , AGIA									
		030 :	509 : N/R	6850C	N/R : N/R :	1500 :	100 PF :	1 :	N/R : FAIL :	1000 : 1 :
			FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%							
6875	MICROPROCESSOR , CLOCK GEN. 2 PHASE									
		030 :	510 : N/R	6875C	N/R : N/R :	1500 :	100 PF :	1 :	N/R : FAIL :	1000 : 1 :
			FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%							

TECHNOLOGY: NMOS
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

SER. : SEQ. : MANUFACTURER : FULL PART NUM. : DATE : TEST : RES. : CAP. : PULSES : TYPE : RESULT : VOLTAGE : DEV. : NUM. : PIN COMBINATION

8039 MICROCOMPUTER , 8 BIT

384 : 33 : N/R : N/R : N/R : 1000 : 200 PF : 1 : SS : FAIL : 1700 : 1 : EACH PIN(+)
REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 1750V.
FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.
384 : 34 : N/R : N/R : N/R : 1000 : 200 PF : 1 : SS : FAIL : 900 : 1 : EACH PIN(+)
REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 3550V.
FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.
384 : 35 : N/R : N/R : N/R : 1000 : 200 PF : 1 : SS : FAIL : 1400 : 1 : EACH PIN(+)
REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 3800V.
FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.
384 : 36 : N/R : N/R : N/R : 1000 : 200 PF : 1 : SS : FAIL : 400 : 1 : EACH PIN(+)
REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 1170V.
FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.

8048 MICROCOMPUTER , 8 BIT

384 : 29 : N/R : N/R : N/R : 1000 : 200 PF : 1 : SS : FAIL : 1200 : 1 : EACH PIN(+)
REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 3000V.
FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.
384 : 30 : N/R : N/R : N/R : 1000 : 200 PF : 1 : SS : FAIL : 1000 : 1 : EACH PIN(+)
REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 3500V.
FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.
384 : 31 : N/R : N/R : N/R : 1000 : 200 PF : 1 : SS : FAIL : 600 : 1 : EACH PIN(+)
REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 2400V.
FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.
384 : 32 : N/R : N/R : N/R : 1000 : 200 PF : 1 : SS : FAIL : 600 : 1 : EACH PIN(+)
REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 1700V.
FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.

8080 MICROPROCESSOR , CPU

030 : 536 : N/R : 8080AC : N/R : N/R : 1500 : 100 PF : 1 : M/R : FAIL : 1000 : 1 : M/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

8085 MICROPROCESSOR , CPU

030 : 537 : N/R : 8085A : N/R : N/R : 1500 : 100 PF : 1 : M/R : FAIL : 1000 : 1 : M/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

8155 STATIC RAM , 256X8 BIT, I/O, TIMER

384 : 39 : N/R : N/R : N/R : 1000 : 200 PF : 1 : SS : FAIL : 700 : 1 : EACH PIN(+)
REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 2900V.
FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.
384 : 40 : N/R : N/R : N/R : 1000 : 200 PF : 1 : SS : FAIL : 900 : 1 : EACH PIN(+)
REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 2900V.
FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.
384 : 41 : N/R : N/R : N/R : 1000 : 200 PF : 1 : SS : FAIL : 600 : 1 : EACH PIN(+)
REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 2500V.
FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.

[illegible]

0155 STATIC RAM , 256X8 BIT, I/O, TIMER

LSI , PROG. INTERVAL TIMER
0253

384 : 38 : N/R : N/R : N/R : N/R : 1000 : 200 PF : 1 : SS : FAIL : 800 : 1 : EACH PIN(+)

8755 KPHOM, 2048X8 BIT

[illegible]

9102 STATIC RAM : 1024 BIT

003 : 6 : ADVANCED MICRO DEVICES : N/R : N/R : NOV 75 : 0 : 100 PF : 1 : SS : FAIL : 300 : 1 : INPUT(+) PR. SUPPLY(-)

DYNAMIC RAM , 16384X1 BYT

061	:	1	:	INTEL	:	N/R	:	SEP 78	:	1000	:	220	:	PF	:	1	:	SS	:	PAIL	:	1000	:	5	:	N/R
-----	---	---	---	-------	---	-----	---	--------	---	------	---	-----	---	----	---	---	---	----	---	------	---	------	---	---	---	-----

EPROM, 16K BIT

300 : 2 : N/R : N/R : N/R : 1500 : 100 PF : 5 : SS : FAIL : 2500 : 1 : EACH PIN(+)
 REMARK: AMERICAN MANUFACTURED FAILURE CRITERIA: IR > 400 UA

360 : 4 : W/R : N/R : 1500 : 100 PF : 10 : SS : PASS : 3000 : 1 : EACH PIN(-)
REMARK: AMERICAN MANUFACTURED
FAILURE CRITERIA: IR > 400 U/A

360 : 6 : N/R : N/R : 1500 : 100 PF : 1 : SS : PASS : 3000 : 1 : EACH PIN(-)
 REMARK: AMERICAN MANUFACTURED
 FAILURE CRITERIA: IR > 400 UTA

[illegible]

REFUGEE: AFISAWAN PHOTOGRAPH FALUNG GUILTY: IN / 400 UA

TECHNOLOGY: NMOS
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

SRC. : SEQ. :	MANUFACTURER	FULL PART NUM. :	DATE :	TEST :	RES. :	CAP. :	PULSES :	TYPE :	TEST :	NUM. :	PIN COMBINATION
CODE :	NUM. :										
(CONTINUED)											
N/R	EPROM, 16K BIT										
380 :	9 :	N/R	N/R	N/R	1500 :	100 PF :	1 :	SS :	FAIL :	1000 :	1 : EACH PIN(+)
REMARK :	AMERICAN MANUFACTURER	FAILURE CRITERIA: IR > 400 UA									
380 :	10 :	N/R	N/R	N/R	1500 :	100 PF :	10 :	SS :	FAIL :	2000 :	1 : EACH PIN(-)
REMARK :	AMERICAN MANUFACTURER	FAILURE CRITERIA: IR > 400 UA									
380 :	11 :	N/R	N/R	N/R	1500 :	100 PF :	5 :	SS :	FAIL :	1500 :	1 : EACH PIN(-)
REMARK :	AMERICAN MANUFACTURER	FAILURE CRITERIA: IR > 400 UA									
380 :	12 :	N/R	N/R	N/R	1500 :	100 PF :	1 :	SS :	FAIL :	2000 :	1 : EACH PIN(-)
REMARK :	AMERICAN MANUFACTURER	FAILURE CRITERIA: IR > 400 UA									
380 :	13 :	N/R	N/R	N/R	1500 :	100 PF :	10 :	SS :	FAIL :	500 :	1 : EACH PIN(+)
REMARK :	AMERICAN MANUFACTURER	FAILURE CRITERIA: IR > 400 UA									
380 :	14 :	N/R	N/R	N/R	1500 :	100 PF :	5 :	SS :	FAIL :	500 :	1 : EACH PIN(+)
REMARK :	AMERICAN MANUFACTURER	FAILURE CRITERIA: IR > 400 UA									
380 :	15 :	N/R	N/R	N/R	1500 :	100 PF :	1 :	SS :	FAIL :	600 :	1 : EACH PIN(+)
REMARK :	AMERICAN MANUFACTURER	FAILURE CRITERIA: IR > 400 UA									
380 :	16 :	N/R	N/R	N/R	1500 :	100 PF :	10 :	SS :	FAIL :	700 :	1 : EACH PIN(-)
REMARK :	AMERICAN MANUFACTURER	FAILURE CRITERIA: IR > 400 UA									
380 :	17 :	N/R	N/R	N/R	1500 :	100 PF :	5 :	SS :	FAIL :	900 :	1 : EACH PIN(-)
REMARK :	AMERICAN MANUFACTURER	FAILURE CRITERIA: IR > 400 UA									
380 :	18 :	N/R	N/R	N/R	1500 :	100 PF :	1 :	SS :	FAIL :	900 :	1 : EACH PIN(-)
REMARK :	AMERICAN MANUFACTURER	FAILURE CRITERIA: IR > 400 UA									
380 :	19 :	N/R	N/R	N/R	1500 :	100 PF :	10 :	SS :	FAIL :	1000 :	1 : EACH PIN(+)
REMARK :	JAPANESE MANUFACTURER	FAILURE CRITERIA: IR > 400 UA									
380 :	20 :	N/R	N/R	N/R	1500 :	100 PF :	5 :	SS :	FAIL :	2000 :	1 : EACH PIN(+)
REMARK :	JAPANESE MANUFACTURER	FAILURE CRITERIA: IR > 400 UA									
380 :	21 :	N/R	N/R	N/R	1500 :	100 PF :	1 :	SS :	FAIL :	2500 :	1 : EACH PIN(+)
REMARK :	JAPANESE MANUFACTURER	FAILURE CRITERIA: IR > 400 UA									
380 :	22 :	N/R	N/R	N/R	1500 :	100 PF :	10 :	SS :	FAIL :	2500 :	1 : EACH PIN(-)
REMARK :	JAPANESE MANUFACTURER	FAILURE CRITERIA: IR > 400 UA									
380 :	23 :	N/R	N/R	N/R	1500 :	100 PF :	5 :	SS :	PASS :	3000 :	1 : EACH PIN(-)
REMARK :	JAPANESE MANUFACTURER	FAILURE CRITERIA: IR > 400 UA									
380 :	24 :	N/R	N/R	N/R	1500 :	100 PF :	1 :	SS :	PASS :	3000 :	1 : EACH PIN(-)
REMARK :	JAPANESE MANUFACTURER	FAILURE CRITERIA: IR > 400 UA									
380 :	25 :	N/R	N/R	N/R	1500 :	100 PF :	10 :	SS :	FAIL :	1500 :	1 : EACH PIN(+)
REMARK :	JAPANESE MANUFACTURER	FAILURE CRITERIA: IR > 400 UA									
380 :	26 :	N/R	N/R	N/R	1500 :	100 PF :	5 :	SS :	FAIL :	3000 :	1 : EACH PIN(+)
REMARK :	JAPANESE MANUFACTURER	FAILURE CRITERIA: IR > 400 UA									
380 :	27 :	N/R	N/R	N/R	1500 :	100 PF :	1 :	SS :	FAIL :	3000 :	1 : EACH PIN(+)
REMARK :	JAPANESE MANUFACTURER	FAILURE CRITERIA: IR > 400 UA									
380 :	28 :	N/R	N/R	N/R	1500 :	100 PF :	10 :	SS :	FAIL :	2000 :	1 : EACH PIN(-)
REMARK :	JAPANESE MANUFACTURER	FAILURE CRITERIA: IR > 400 UA									
380 :	29 :	N/R	N/R	N/R	1500 :	100 PF :	5 :	SS :	FAIL :	1500 :	1 : EACH PIN(-)
REMARK :	JAPANESE MANUFACTURER	FAILURE CRITERIA: IR > 400 UA									
380 :	30 :	N/R	N/R	N/R	1500 :	100 PF :	1 :	SS :	FAIL :	3000 :	1 : EACH PIN(-)
REMARK :	JAPANESE MANUFACTURER	FAILURE CRITERIA: IR > 400 UA									
380 :	31 :	N/R	N/R	N/R	1500 :	100 PF :	10 :	SS :	FAIL :	500 :	1 : EACH PIN(+)
REMARK :	JAPANESE MANUFACTURER	FAILURE CRITERIA: IR > 400 UA									
380 :	32 :	N/R	N/R	N/R	1500 :	100 PF :	5 :	SS :	FAIL :	600 :	1 : EACH PIN(+)
REMARK :	JAPANESE MANUFACTURER	FAILURE CRITERIA: IR > 400 UA									

TECHNOLOGY: NMOS
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

SEC.: SEQ.: : DATE : TEST : RES.: : NUMBER : TEST : : NOM.:
CODE : RM.: : MANUFACTURER : : FULL PART NUM. : CODE : DATE : (QIMS): CAP. : PULSES : TYPE : RESULT: VOLTAGE: DEV. : : PIN COMBINATION

W/R EPROM, 16K BIT

(CONTINUED)

360	33	W/R	N/R	N/R	N/R	1500	100 PF	1	SS	FAIL	2000	1	EACH PIN(+)
REMARK:		JAPANESE MANUFACTURER			FAILURE CRITERIA: IR > 400 UA								
360	34	W/R	N/R	N/R	N/R	1500	100 PF	10	SS	FAIL	1500	1	EACH PIN(-)
REMARK:		JAPANESE MANUFACTURER			FAILURE CRITERIA: IR > 400 UA								
360	35	W/R	N/R	N/R	N/R	1500	100 PF	5	SS	FAIL	1500	1	EACH PIN(-)
REMARK:		JAPANESE MANUFACTURER			FAILURE CRITERIA: IR > 400 UA								
360	36	W/R	N/R	N/R	N/R	1500	100 PF	1	SS	FAIL	2000	1	EACH PIN(-)
REMARK:		JAPANESE MANUFACTURER			FAILURE CRITERIA: IR > 400 UA								
361	1	W/R	N/R	N/R	N/R	0	200 PF	10	SS	FAIL	300	1	EACH PIN(+)
REMARK:		AMERICAN MANUFACTURER			FAILURE CRITERIA: IR > 400 UA								
361	2	W/R	N/R	N/R	N/R	0	200 PF	10	SS	PASS	500	1	EACH PIN(-)
REMARK:		AMERICAN MANUFACTURER			FAILURE CRITERIA: IR > 400 UA								
361	3	W/R	N/R	N/R	N/R	0	200 PF	10	SS	FAIL	100	1	EACH PIN(+)
REMARK:		AMERICAN MANUFACTURER			FAILURE CRITERIA: IR > 400 UA								
361	4	W/R	N/R	N/R	N/R	0	200 PF	10	SS	FAIL	400	1	EACH PIN(-)
REMARK:		AMERICAN MANUFACTURER			FAILURE CRITERIA: IR > 400 UA								
361	5	W/R	N/R	N/R	N/R	0	200 PF	10	SS	FAIL	200	1	EACH PIN(+)
REMARK:		AMERICAN MANUFACTURER			FAILURE CRITERIA: IR > 400 UA								
361	6	W/R	N/R	N/R	N/R	0	200 PF	10	SS	FAIL	100	1	EACH PIN(-)
REMARK:		AMERICAN MANUFACTURER			FAILURE CRITERIA: IR > 400 UA								
361	7	W/R	N/R	N/R	N/R	0	200 PF	10	SS	FAIL	200	1	EACH PIN(+)
REMARK:		JAPANESE MANUFACTURER			FAILURE CRITERIA: IR > 400 UA								
361	8	W/R	N/R	N/R	N/R	0	200 PF	10	SS	FAIL	200	1	EACH PIN(-)
REMARK:		JAPANESE MANUFACTURER			FAILURE CRITERIA: IR > 400 UA								
361	9	W/R	N/R	N/R	N/R	0	200 PF	10	SS	FAIL	300	1	EACH PIN(+)
REMARK:		JAPANESE MANUFACTURER			FAILURE CRITERIA: IR > 400 UA								
361	10	W/R	N/R	N/R	N/R	0	200 PF	10	SS	FAIL	400	1	EACH PIN(-)
REMARK:		JAPANESE MANUFACTURER			FAILURE CRITERIA: IR > 400 UA								
361	11	W/R	N/R	N/R	N/R	0	200 PF	10	SS	FAIL	100	1	EACH PIN(+)
REMARK:		JAPANESE MANUFACTURER			FAILURE CRITERIA: IR > 400 UA								
361	12	W/R	N/R	N/R	N/R	0	200 PF	10	SS	FAIL	200	1	EACH PIN(-)
REMARK:		JAPANESE MANUFACTURER			FAILURE CRITERIA: IR > 400 UA								
362	1	W/R	N/R	N/R	N/R	0	200 PF	1	N/R	FAIL	400	1	ALL PINS(+)
REMARK:		DEVICE CAPACITANCE WAS 11.1 PF. TO GND. THE CHARGED DEVICE MODEL WAS USED.			FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT AT ANY PIN.								
362	2	W/R	N/R	N/R	N/R	0	200 PF	1	N/R	FAIL	2000	1	ALL PINS(-)
REMARK:		DEVICE CAPACITANCE WAS 11.1 PF. TO GND. THE CHARGED DEVICE MODEL WAS USED.			FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT AT ANY PIN.								
362	3	W/R	N/R	N/R	N/R	0	200 PF	1	N/R	FAIL	400	1	ALL PINS(+)
REMARK:		DEVICE CAPACITANCE WAS 9.0 PF. TO GND. THE CHARGED DEVICE MODEL WAS USED.			FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT AT ANY PIN.								
362	4	W/R	N/R	N/R	N/R	0	200 PF	1	N/R	FAIL	400	1	ALL PINS(-)
REMARK:		DEVICE CAPACITANCE WAS 9.0 PF. TO GND. THE CHARGED DEVICE MODEL WAS USED.			FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT AT ANY PIN.								
362	5	W/R	N/R	N/R	N/R	0	200 PF	1	N/R	FAIL	350	1	ALL PINS(+)
REMARK:		DEVICE CAPACITANCE WAS 6.8 PF. TO GND. THE CHARGED DEVICE MODEL WAS USED.			FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT AT ANY PIN.								
362	6	W/R	N/R	N/R	N/R	0	200 PF	1	N/R	FAIL	400	1	ALL PINS(-)
REMARK:		DEVICE CAPACITANCE WAS 6.8 PF. TO GND. THE CHARGED DEVICE MODEL WAS USED.			FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT AT ANY PIN.								
362	7	W/R	N/R	N/R	N/R	0	200 PF	1	N/R	FAIL	2000	1	ALL PINS(+)
REMARK:		DEVICE CAPACITANCE WAS 9.6 PF. TO GND. THE CHARGED DEVICE MODEL WAS USED.			FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT AT ANY PIN.								
362	8	W/R	N/R	N/R	N/R	0	200 PF	1	N/R	FAIL	2000	1	ALL PINS(-)
REMARK:		DEVICE CAPACITANCE WAS 9.6 PF. TO GND. THE CHARGED DEVICE MODEL WAS USED.			FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT AT ANY PIN.								

[illegible]

SRC. : SEQ. :	:	DATE :	TEST :	:	NUMBER :	TEST :	:	NUM. :
CODE :	NUM. :	FULL PART NUM.	CODE :	DATE :	(OHMS) :	CAP. :	PULSES :	VOLTAGE :
MANUFACTURER								DEV. :
								PIN COMBINATION

N/R EPROM , 16K BIT

(CONTINUED)

382	:	9 :	N/R	:	N/R	:	N/R	:	N/R	:	1 :	N/R	:	FAIL :	600 :	1 :	ALL PINS(+)
	:	REMARK:	DEVICE CAPACITANCE WAS 11.8 PF. TO GND.	:	THE CHARGED DEVICE MODEL WAS USED.	:		:		:	FAILURE CRITERIA:	:	EXCESSIVE LEAKAGE CURRENT AT ANY PIN.	:		:	
382	:	10 :	N/R	:	N/R	:	N/R	:	N/R	:	1 :	N/R	:	FAIL :	1500 :	1 :	ALL PINS(-)
	:	REMARK:	DEVICE CAPACITANCE WAS 11.8 PF. TO GND.	:	THE CHARGED DEVICE MODEL WAS USED.	:		:		:	FAILURE CRITERIA:	:	EXCESSIVE LEAKAGE CURRENT AT ANY PIN.	:		:	
382	:	11 :	N/R	:	N/R	:	N/R	:	N/R	:	1 :	N/R	:	FAIL :	2000 :	1 :	ALL PINS(+)
	:	REMARK:	DEVICE CAPACITANCE WAS 7.11 PF. TO GND	:	THE CHARGED DEVICE MODEL WAS USED.	:		:		:	FAILURE CRITERIA:	:	EXCESSIVE LEAKAGE CURRENT AT ANY PIN.	:		:	
382	:	12 :	N/R	:	N/R	:	N/R	:	N/R	:	1 :	N/R	:	FAIL :	1500 :	1 :	ALL PINS(-)
	:	REMARK:	DEVICE CAPACITANCE WAS 7.11 PF. TO GND	:	THE CHARGED DEVICE MODEL WAS USED.	:		:		:	FAILURE CRITERIA:	:	EXCESSIVE LEAKAGE CURRENT AT ANY PIN.	:		:	

TECHNOLOGY: PMOS

BASIC PART NUMBER DESCRIPTION

SIC. : SEQ. : : DATE : TEST : RES. : : NUMBER : TEST : : NUM. :
CODE : NUM. : MANUFACTURER : FULL PART NUM. : CODE : DATE : (OHMS) : CAP. : PULSES : TYPE : RESULT : VOLTAGE : DEV. : PIN COMINATION

04590 SSI/M81, ADDR

029 : 307 : RCA : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 5968 : 1 : N/R

REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.

11011 STATIC RAM, 256X1 BIT

029 : 308 : INTEL : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 2109 : 1 : N/R

REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.

14021 SHIFT REGISTER, STATIC

029 : 309 : INTEL : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 4733 : 1 : N/R

REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.

N/R LSI

166 : 1 : SYLVANIA : 755090A0091 : 7544 : N/R : 1500 : 100 PF : 1 : SS : PASS : 4000 : 1 : N/R

FAILURE CRITERIA: CHANGE IN IDD AND/OR FUNCTIONAL FAILURE.

167 : 1 : SYLVANIA : 755090A0091 : 7544 : N/R : 1500 : 100 PF : 1 : SS : FAIL : 7000 : 1 : N/R

FAILURE CRITERIA: CHANGE IN IDD AND/OR FUNCTIONAL FAILURE.

168 : 1 : SYLVANIA : 755090A0091 : 7544 : N/R : 1500 : 100 PF : 1 : SS : FAIL : 10000 : 1 : N/R

REMARK: DAMAGE CAUSED BY TEST CIRCUIT MALFUNCTIONS. FAILURE CRITERIA: CHANGE IN IDD AND/OR FUNCTIONAL FAILURE.

169 : 1 : SYLVANIA : 755090A0091 : 7544 : N/R : 1500 : 100 PF : 1 : SS : PASS : 10000 : 1 : N/R

FAILURE CRITERIA: CHANGE IN IDD AND/OR FUNCTIONAL FAILURE.

N/R CUSTOM, LSI PHONE CONVERTER

231 : 1 : N/R : N/R : N/R : 0 : 100 PF : 1 : N/R : FAIL : 570 : 1 : INPUT(+) CMD(-)

REMARK: 570 VOLTS IS AN AVERAGE OF 8 INPUTS TESTED.

231 : 2 : N/R : N/R : N/R : 0 : 100 PF : 1 : N/R : FAIL : 400 : 1 : INPUT(-) CMD(+)

REMARK: 400 VOLTS IS AN AVERAGE OF 8 INPUTS TESTED.

TECHNOLOGY: MOS

BASIC PART NUMBER	DESCRIPTION	SERIAL : SEQ. :	DATE : TEST : RES. :	NUMBER : TEST :	NUM. :
CODE : NUM. :	MANUFACTURER	FULL PART NUM. :	CODE : DATE : (OBS) :	CAP. : PULSES : TYPE : RESULT : VOLTAGE : DEV. :	PIN COMBINATION
2114	STATIC RAM , 1024X4 BIT				
030	353 : N/R : 2114-P30 : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1000 : 1 :				N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%				
2147	STATIC RAM , 4096X1 BIT				
030	355 : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1000 : 1 :				N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%				
520	CONSUMER , CHROMA CIRCUITS,TV				
048	20 : GENERAL INSTRUMENTS : MEM520 : N/R : N/R : 100 : 218 PF : 1 : SS : FAIL : 58 : 1 :				N/R
	FAILURE CRITERIA: GATE CURRENT GREATER THAN 5UA AT A GATE/SOURCE VOLTAGE OF 22V				
7552	STATIC RAM , 1024 BIT				
003	5 : INTERSIL : N/R : N/R : NOV 75 : 0 : 100 PF : 1 : SS : FAIL : 400 : 1 : INPUT(-) PR. SUPPLY(-)				
N/R	MICROCOMPUTER , LCC				
042	1 : N/R : N/R : N/R : 270 : 450 PF : 1 : SS : FAIL : 1000 : 3 :				N/R
	REMARK: 1000 VOLTS IS AN AVERAGE OF 3 DEVICES				
042	2 : TEXAS INSTRUMENTS : N/R : N/R : 270 : 450 PF : 1 : SS : FAIL : 900 : 3 :				N/R
	REMARK: 900 VOLTS IS AN AVERAGE OF 3 DEVICES				
046	8 : N/R : N/R : N/R : 1000 : 200 PF : 1000 : CN : PASS : 500 : 1 :				N/R
	FAILURE CRITERIA: 1 UA LEAKAGE AT 10V				
046	9 : TEXAS INSTRUMENTS : N/R : N/R : 1000 : 200 PF : 1000 : CN : PASS : 500 : 1 :				N/R
	FAILURE CRITERIA: 1 UA LEAKAGE AT 10V				
046	10 : MOTOROLA SEMI : N/R : N/R : 1000 : 200 PF : 1000 : CN : PASS : 500 : 1 :				N/P
	FAILURE CRITERIA: 1 UA LEAKAGE AT 10V				
047	5 : N/R : N/R : N/R : 1000 : 200 PF : 1000 : CN : PASS : 500 : 1 :				N/R
	FAILURE CRITERIA: 1 UA LEAKAGE AT 10V				
047	6 : TEXAS INSTRUMENTS : N/R : N/R : 1000 : 200 PF : 1000 : CN : FAIL : 1000 : 1 :				N/R
	FAILURE CRITERIA: 1 UA LEAKAGE AT 10V				
047	7 : MOTOROLA SEMI : N/R : N/R : 1000 : 200 PF : 1000 : CN : FAIL : 1000 : 1 :				N/R
	FAILURE CRITERIA: 1 UA LEAKAGE AT 10V				
N/R	MICROCOMPUTER , LCC UC				
041	22 : TEXAS INSTRUMENTS : N/R : N/R : 1000 : 200 PF : 1 : SS : FAIL : 1600 : 1 :				N/R
	FAILURE CRITERIA: 1 UA LEAKAGE AT 10V				
N/R	MICROCOMPUTER , LCC UC				
041	17 : N/R : N/R : N/R : 1000 : 200 PF : 1 : SS : FAIL : 700 : 1 :				N/R
	FAILURE CRITERIA: 1 UA LEAKAGE AT 10V				
041	18 : N/R : N/R : N/R : 1000 : 200 PF : 1 : SS : FAIL : 2000 : 1 :				N/R
	FAILURE CRITERIA: 1 UA LEAKAGE AT 10V				
041	19 : MOTOROLA SEMI : N/R : N/R : 1000 : 200 PF : 1 : SS : FAIL : 700 : 1 :				N/R
	FAILURE CRITERIA: 1 UA LEAKAGE AT 10V				
041	20 : MOTOROLA SEMI : N/R : N/R : 1000 : 200 PF : 1 : SS : FAIL : 2000 : 1 :				N/R
	FAILURE CRITERIA: 1 UA LEAKAGE AT 10V				

TECHNOLOGY: MOS
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

SEC.: SEQ.: : DATE : TEST : RES.: : NUMBER : TEST : : NUM.:
CODE : MFR.: MANUFACTURER : FULL PART NUM. : CODE : DATE : (OBS): CAP. : PULSES : TYPE : RESULT: VOLTAGE: DEV.: PIN COMBINATION

(CONTINUED)

N/R MICROCOMPUTER , LCC UC : N/R : N/R : 1000 : 200 PF : 1 : SS : FAIL : 900 : 1 : N/R

041 : 21 : TEXAS INSTRUMENTS : N/R : N/R : N/R : 270 : 450 PF : 1 : SS : FAIL : 700 : 3 : N/R

FAILURE CRITERIA: 1 UA LEAKAGE AT 10V

N/R MEMORY , 2KX8 BIT

042 : 6 : INTEL : N/R : N/R : N/R : 270 : 450 PF : 1 : SS : FAIL : 700 : 3 : N/R

REMARK: 700 VOLTS IS AN AVERAGE OF 3 DEVICES

N/R RAM

041 : 13 : 010 : N/R : N/R : N/R : 1000 : 200 PF : 1 : SS : FAIL : 800 : 1 : N/R

FAILURE CRITERIA: 1 UA LEAKAGE AT 10V

041 : 14 : 10 : N/R : N/R : N/R : 1000 : 200 PF : 1 : SS : FAIL : 1000 : 1 : N/R

FAILURE CRITERIA: 1 UA LEAKAGE AT 10V

041 : 15 : SIGHTICS : N/R : N/R : N/R : 1000 : 200 PF : 1 : SS : FAIL : 500 : 1 : N/R

FAILURE CRITERIA: 1 UA LEAKAGE AT 10V

041 : 16 : SIGHTICS : N/R : N/R : N/R : 1000 : 200 PF : 1 : SS : FAIL : 700 : 1 : N/R

FAILURE CRITERIA: 1 UA LEAKAGE AT 10V

N/R RAM , 1KX1 BIT

041 : 7 : TEXAS INSTRUMENTS : N/R : N/R : N/R : 1000 : 200 PF : 1 : SS : FAIL : 400 : 1 : N/R

FAILURE CRITERIA: 1 UA LEAKAGE AT 10V

041 : 8 : TEXAS INSTRUMENTS : N/R : N/R : N/R : 1000 : 200 PF : 1 : SS : FAIL : 1100 : 1 : N/R

FAILURE CRITERIA: 1 UA LEAKAGE AT 10V

041 : 9 : NATIONAL SEMI : N/R : N/R : N/R : 1000 : 200 PF : 1 : SS : FAIL : 1000 : 1 : N/R

FAILURE CRITERIA: 1 UA LEAKAGE AT 10V

041 : 10 : NATIONAL SEMI : N/R : N/R : N/R : 1000 : 200 PF : 1 : SS : FAIL : 2000 : 1 : N/R

FAILURE CRITERIA: 1 UA LEAKAGE AT 10V

045 : 2 : 10 : N/R : N/R : N/R : 1000 : 200 PF : 4 : SS : FAIL : 1000 : 3 : N/R

REMARK: 1000 VOLTS IS AN AVERAGE OF 3 DEVICES

045 : 3 : NATIONAL SEMI : N/R : N/R : N/R : 1000 : 200 PF : 4 : SS : FAIL : 1200 : 3 : N/R

REMARK: 1200 VOLTS IS AN AVERAGE OF 3 DEVICES

045 : 4 : SIGHTICS : N/R : N/R : N/R : 1000 : 200 PF : 4 : SS : FAIL : 600 : 3 : N/R

REMARK: 600 VOLTS IS AN AVERAGE OF 3 DEVICES

045 : 5 : TEXAS INSTRUMENTS : N/R : N/R : N/R : 1000 : 200 PF : 4 : SS : FAIL : 700 : 3 : N/R

REMARK: 700 VOLTS IS AN AVERAGE OF 3 DEVICES

046 : 6 : MOSTEK : N/R : N/R : N/R : 1000 : 200 PF : 40 : CN : FAIL : 500 : 1 : N/R

FAILURE CRITERIA: 1 UA LEAKAGE AT 10V

046 : 7 : 10 : N/R : N/R : N/R : 1000 : 200 PF : 20 : CN : FAIL : 500 : 1 : N/R

FAILURE CRITERIA: 1 UA LEAKAGE AT 10V

N/R RAM , 4K BIT

042 : 3 : INTEL : N/R : N/R : N/R : 270 : 450 PF : 1 : SS : FAIL : 700 : 3 : N/R

REMARK: 700 VOLTS IS AN AVERAGE OF 3 DEVICES

042 : 4 : MOSTEK : N/R : N/R : N/R : 270 : 450 PF : 1 : SS : FAIL : 400 : 3 : N/R

REMARK: 400 VOLTS IS AN AVERAGE OF 3 DEVICES

042 : 5 : MOTOROLA SEMI : N/R : N/R : N/R : 270 : 450 PF : 1 : SS : FAIL : 600 : 3 : N/R

REMARK: 600 VOLTS IS AN AVERAGE OF 3 DEVICES

046 : 11 : MOSTEK : N/R : N/R : N/R : 1000 : 200 PF : 60 : CN : FAIL : 500 : 1 : N/R

FAILURE CRITERIA: 1 UA LEAKAGE AT 10V

TECHNOLOGY: MOS
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

SEC.: SEQ.: : DATE : TEST : RES.: : NUMBER : TEST : : MUN.:
CODE : MUM.: : MANUFACTURER : FULL PART NUM. : CODE : DATE : (ORMS): CAP. : PULSES : TYPE : RESULT: VOLTAGE: DEV. : PIN COMBINATION

(CONTINUED)

N/R

RAM, 4K BIT

046 : 12 : TEXAS INSTRUMENTS : N/R : N/R : N/R : 1000 : 200 PF : 50 : CN : FAIL : 500 : 1 : N/R
FAILURE CRITERIA: 1 UA LEAKAGE AT 10V
046 : 13 : MOTOROLA SEMI : N/R : N/R : N/R : 1000 : 200 PF : 300 : CN : PASS : 500 : 1 : N/R
FAILURE CRITERIA: 1 UA LEAKAGE AT 10V
046 : 14 : INTEL : N/R : N/R : N/R : 1000 : 200 PF : 1000 : CN : PASS : 500 : 1 : N/R
FAILURE CRITERIA: 1 UA LEAKAGE AT 10V
046 : 15 : 1 : N/R : N/R : N/R : 1000 : 200 PF : 1000 : CN : PASS : 500 : 1 : N/R
FAILURE CRITERIA: 1 UA LEAKAGE AT 10V
047 : 8 : MOSTEK : N/R : N/R : N/R : 1000 : 200 PF : 1 : CN : FAIL : 1000 : 1 : N/R
FAILURE CRITERIA: 1 UA LEAKAGE AT 10V
047 : 9 : TEXAS INSTRUMENTS : N/R : N/R : N/R : 1000 : 200 PF : 5 : CN : FAIL : 1000 : 1 : N/R
FAILURE CRITERIA: 1 UA LEAKAGE AT 10V
047 : 10 : MOTOROLA SEMI : N/R : N/R : N/R : 1000 : 200 PF : 5 : CN : FAIL : 1000 : 1 : N/R
FAILURE CRITERIA: 1 UA LEAKAGE AT 10V
047 : 11 : INTEL : N/R : N/R : N/R : 1000 : 200 PF : 40 : CN : FAIL : 1000 : 1 : N/R
FAILURE CRITERIA: 1 UA LEAKAGE AT 10V
047 : 12 : 1 : N/R : N/R : N/R : 1000 : 200 PF : 20 : CN : FAIL : 1000 : 1 : N/R
FAILURE CRITERIA: 1 UA LEAKAGE AT 10V

N/R

RAM, 4KX1 BIT

041 : 23 : MOSTEK : N/R : N/R : N/R : 1000 : 200 PF : 1 : SS : FAIL : 600 : 1 : N/R
FAILURE CRITERIA: 1 UA LEAKAGE AT 10V
041 : 24 : MOSTEK : N/R : N/R : N/R : 1000 : 200 PF : 1 : SS : FAIL : 2000 : 1 : N/R
FAILURE CRITERIA: 1 UA LEAKAGE AT 10V
041 : 25 : TEXAS INSTRUMENTS : N/R : N/R : N/R : 1000 : 200 PF : 1 : SS : FAIL : 1300 : 1 : N/R
FAILURE CRITERIA: 1 UA LEAKAGE AT 10V
041 : 26 : TEXAS INSTRUMENTS : N/R : N/R : N/R : 1000 : 200 PF : 1 : SS : FAIL : 2000 : 1 : N/R
FAILURE CRITERIA: 1 UA LEAKAGE AT 10V
041 : 27 : MOTOROLA SEMI : N/R : N/R : N/R : 1000 : 200 PF : 1 : SS : FAIL : 1300 : 1 : N/R
FAILURE CRITERIA: 1 UA LEAKAGE AT 10V
041 : 28 : MOTOROLA SEMI : N/R : N/R : N/R : 1000 : 200 PF : 1 : SS : FAIL : 2000 : 1 : N/R
FAILURE CRITERIA: 1 UA LEAKAGE AT 10V
041 : 29 : 1 : N/R : N/R : N/R : 1000 : 200 PF : 1 : SS : FAIL : 800 : 1 : N/R
FAILURE CRITERIA: 1 UA LEAKAGE AT 10V
041 : 30 : 1 : N/R : N/R : N/R : 1000 : 200 PF : 1 : SS : FAIL : 2000 : 1 : N/R
FAILURE CRITERIA: 1 UA LEAKAGE AT 10V
041 : 31 : INTEL : N/R : N/R : N/R : 1000 : 200 PF : 1 : SS : FAIL : 600 : 1 : N/R
FAILURE CRITERIA: 1 UA LEAKAGE AT 10V
041 : 32 : INTEL : N/R : N/R : N/R : 1000 : 200 PF : 1 : SS : FAIL : 2000 : 1 : N/R
FAILURE CRITERIA: 1 UA LEAKAGE AT 10V

N/R

BOM

031 : 1 : MOSTEK : N/R : N/R : N/R : 100 : 200 PF : 1 : N/R : FAIL : 500 : 1 : N/R
FAILURE CRITERIA: 1 UA LEAKAGE AT 10V
031 : 2 : INTEL : N/R : N/R : N/R : 100 : 200 PF : 1 : N/R : FAIL : 700 : 1 : N/R
FAILURE CRITERIA: 1 UA LEAKAGE AT 10V
032 : 1 : MOSTEK : N/R : N/R : N/R : 250 : 200 PF : 1 : N/R : FAIL : 720 : 1 : N/R
FAILURE CRITERIA: 1 UA LEAKAGE AT 10V

TECHNOLOGY: MOS
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

SEC. : SEQ. : CODE : RUN. :	MANUFACTURER	FULL PART NUM. :	DATE : TEST : RES. :	CODE : DATE : (OBMS) :	CAP. : PULSES : TYPE : RESULT : VOLTAGE : DEV. :	MUM. : PIN COMBINATION
N/R	ROM					
032	2 : INTEL	N/R	N/R : N/R : 250 : 200 PF :	1 : N/R : FAIL :	1000 : 1 :	N/R
	FAILURE CRITERIA: 1 UA LEAKAGE AT 10V					
033	1 : MOSTEK	N/R	N/R : N/R : 500 : 200 PF :	1 : N/R : FAIL :	875 : 1 :	N/R
	FAILURE CRITERIA: 1 UA LEAKAGE AT 10V					
033	2 : INTEL	N/R	N/R : N/R : 500 : 200 PF :	1 : N/R : FAIL :	1400 : 1 :	N/R
	FAILURE CRITERIA: 1 UA LEAKAGE AT 10V					
034	1 : MOSTEK	N/R	N/R : N/R : 1000 : 200 PF :	1 : N/R : FAIL :	1000 : 1 :	N/R
	FAILURE CRITERIA: 1 UA LEAKAGE AT 10V					
034	2 : INTEL	N/R	N/R : N/R : 1000 : 200 PF :	1 : N/R : FAIL :	2000 : 1 :	N/R
	FAILURE CRITERIA: 1 UA LEAKAGE AT 10V					
035	1 : MOSTEK	N/R	N/R : N/R : 1500 : 200 PF :	1 : N/R : FAIL :	1250 : 1 :	N/R
	FAILURE CRITERIA: 1 UA LEAKAGE AT 10V					
035	2 : INTEL	N/R	N/R : N/R : 1500 : 200 PF :	1 : N/R : FAIL :	2250 : 1 :	N/R
	FAILURE CRITERIA: 1 UA LEAKAGE AT 10V					
036	1 : MOSTEK	N/R	N/R : N/R : 100 : 450 PF :	1 : N/R : FAIL :	375 : 1 :	N/R
	FAILURE CRITERIA: 1 UA LEAKAGE AT 10V					
036	2 : INTEL	N/R	N/R : N/R : 100 : 450 PF :	1 : N/R : FAIL :	500 : 1 :	N/R
	FAILURE CRITERIA: 1 UA LEAKAGE AT 10V					
037	1 : MOSTEK	N/R	N/R : N/R : 250 : 450 PF :	1 : N/R : FAIL :	375 : 1 :	N/R
	FAILURE CRITERIA: 1 UA LEAKAGE AT 10V					
037	2 : INTEL	N/R	N/R : N/R : 250 : 450 PF :	1 : N/R : FAIL :	750 : 1 :	N/R
	FAILURE CRITERIA: 1 UA LEAKAGE AT 10V					
038	1 : MOSTEK	N/R	N/R : N/R : 500 : 450 PF :	1 : N/R : FAIL :	375 : 1 :	N/R
	FAILURE CRITERIA: 1 UA LEAKAGE AT 10V					
038	2 : INTEL	N/R	N/R : N/R : 500 : 450 PF :	1 : N/R : FAIL :	1250 : 1 :	N/R
	FAILURE CRITERIA: 1 UA LEAKAGE AT 10V					
039	1 : MOSTEK	N/R	N/R : N/R : 1000 : 450 PF :	1 : N/R : FAIL :	625 : 1 :	N/R
	FAILURE CRITERIA: 1 UA LEAKAGE AT 10V					
039	2 : INTEL	N/R	N/R : N/R : 1000 : 450 PF :	1 : N/R : FAIL :	1750 : 1 :	N/R
	FAILURE CRITERIA: 1 UA LEAKAGE AT 10V					
040	1 : MOSTEK	N/R	N/R : N/R : 1500 : 450 PF :	1 : N/R : FAIL :	625 : 1 :	N/R
	FAILURE CRITERIA: 1 UA LEAKAGE AT 10V					
040	2 : INTEL	N/R	N/R : N/R : 1500 : 450 PF :	1 : N/R : FAIL :	2250 : 1 :	N/R
	FAILURE CRITERIA: 1 UA LEAKAGE AT 10V					
042	7 : MOSTEK	N/R	N/R : N/R : 270 : 450 PF :	1 : SS : FAIL :	400 : 3 :	N/R
	REMARK: 400 VOLTS IS AN AVERAGE OF 3 DEVICES					
042	8 : GENERAL INSTRUMENTS	N/R	N/R : N/R : 270 : 450 PF :	1 : SS : FAIL :	700 : 3 :	N/R
	REMARK: 700 VOLTS IS AN AVERAGE OF 3 DEVICES					
043	1 : INTEL	N/R	N/R : N/R : 270 : 100 PF :	1 : SS : FAIL :	800 : 3 :	N/R
	REMARK: 800 VOLTS IS AN AVERAGE OF 3 DEVICES					
043	2 : MOSTEK	N/R	N/R : N/R : 270 : 100 PF :	1 : SS : FAIL :	700 : 3 :	N/R
	REMARK: 700 VOLTS IS AN AVERAGE OF 3 DEVICES					
043	3 : GENERAL INSTRUMENTS	N/R	N/R : N/R : 270 : 100 PF :	1 : SS : FAIL :	700 : 3 :	N/R
	REMARK: 700 VOLTS IS AN AVERAGE OF 3 DEVICES					
044	1 : INTEL	N/R	N/R : N/R : 270 : 50 PF :	1 : SS : FAIL :	1000 : 3 :	N/R
	REMARK: 1000 VOLTS IS AN AVERAGE OF 3 DEVICES					
N/R	ROM, 2KX8 BIT					
041	1 : INTEL	N/R	N/R : N/R : 1000 : 200 PF :	1 : SS : FAIL :	1300 : 1 :	N/R
	FAILURE CRITERIA: 1 UA LEAKAGE AT 10V					

TECHNOLOGY: MOS
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

SRC. : SEQ. :	MANUFACTURER :	FULL PART NUM. :	DATE : TEST : RES. :	CAP. :	PULSES :	TYPE :	RESULT :	VOLTAGE :	DEV. :	NUM. :	PIN COMBINATION
CODE : NUM. :			DATE : CODE :	DATE : (OHMS) :							
N/R	ROM , 2K18 BIT										
041 :	2 : INTEL	N/R	N/R : N/R :	1000 :	200 PF :	1 :	SS :	FAIL :	2000 :	1 :	N/R
	FAILURE CRITERIA: 1 UA LEAKAGE AT 10V										
041 :	3 : MOSTEK	N/R	N/R : N/R :	1000 :	200 PF :	1 :	SS :	FAIL :	700 :	1 :	N/R
	FAILURE CRITERIA: 1 UA LEAKAGE AT 10V										
041 :	4 : MOSTEK	N/R	N/R : N/R :	1000 :	200 PF :	1 :	SS :	FAIL :	1600 :	1 :	N/R
	FAILURE CRITERIA: 1 UA LEAKAGE AT 10V										
041 :	5 : OIO	N/R	N/R : N/R :	1000 :	200 PF :	1 :	SS :	FAIL :	600 :	1 :	N/R
	FAILURE CRITERIA: 1 UA LEAKAGE AT 10V										
041 :	6 : OIO	N/R	N/R : N/R :	1000 :	200 PF :	1 :	SS :	FAIL :	2000 :	1 :	N/R
	FAILURE CRITERIA: 1 UA LEAKAGE AT 10V										
046 :	1 : INTEL	N/R	N/R : N/R :	1000 :	200 PF :	1000 :	GN :	PASS :	500 :	1 :	N/R
	FAILURE CRITERIA: 1 UA LEAKAGE AT 10V										
046 :	2 : MOSTEK	N/R	N/R : N/R :	1000 :	200 PF :	200 :	GN :	PASS :	500 :	1 :	N/R
	FAILURE CRITERIA: 1 UA LEAKAGE AT 10V										
046 :	3 : 10	N/R	N/R : N/R :	1000 :	200 PF :	40 :	GN :	FAIL :	500 :	1 :	N/R
	FAILURE CRITERIA: 1 UA LEAKAGE AT 10V										
047 :	1 : INTEL	N/R	N/R : N/R :	1000 :	200 PF :	300 :	GN :	PASS :	1000 :	1 :	N/R
	FAILURE CRITERIA: 1 UA LEAKAGE AT 10V										
047 :	2 : MOSTEK	N/R	N/R : N/R :	1000 :	200 PF :	6 :	GN :	FAIL :	1000 :	1 :	N/R
	FAILURE CRITERIA: 1 UA LEAKAGE AT 10V										
047 :	3 : 10	N/R	N/R : N/R :	1000 :	200 PF :	2 :	GN :	FAIL :	1000 :	1 :	N/R
	FAILURE CRITERIA: 1 UA LEAKAGE AT 10V										

[illegible][illegible]

311 SHIFT REGISTER, ANALOG

383	: 14 : FAIRCHILD SEMI	: C0D311	: N/R :	1500 :	100 PF :	1 :	SS :	FAIL :	295 :	1 :	IN.(+)	AFTT(-)
	REMARK:	FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.					FAILURE CRITERIA:	DEGRADATION OF V-I CURVE OR FUNCTIONAL FAILURE.				
383	: 15 : FAIRCHILD SEMI	: C0D311	: N/R :	1500 :	100 PF :	1 :	SS :	FAIL :	23485 :	1 :	CLOCK(+)	AFTT(-)
	REMARK:	FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.					FAILURE CRITERIA:	DEGRADATION OF V-I CURVE OR FUNCTIONAL FAILURE.				

TECHNOLOGY: MNOS

BASIC PART NUMBER	DESCRIPTION	SEC. : SEQ. :	MANUFACTURER	DATE : TEST : RES. :	NUMBER : TEST :	MEM. :
		CODE : NUM. :		FULL PART NUM. : CODE : DATE : (OHMS) :	PULSES : TYPE : RESULT : VOLTAGE : DEV. :	FIN. COM. :
2051	EAPROM , 32X16 BIT					
030	351 : N/R			N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1000 : 1 :		N/R
3400	EAPROM , 1024X4 BIT					
383	2 : GENERAL INSTRUMENTS : ER3400			N/R : N/R : 1500 : 100 PF : 1 : SS : FAIL : 81 : 1 : VCC(+) APTT(-)		
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.					
383	3 : GENERAL INSTRUMENTS : ER3400			N/R : N/R : 1500 : 100 PF : 1 : SS : FAIL : 144 : 1 : VDD(+) APTT(-)		
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.					
383	4 : GENERAL INSTRUMENTS : ER3400			N/R : N/R : 1500 : 100 PF : 1 : SS : FAIL : 14024 : 1 : A5(9)(+) APTT(-)		
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.					
7040	EAPROM , 1024X4 BIT					
383	5 : NITRON : MC7040			N/R : N/R : 1500 : 100 PF : 1 : SS : FAIL : 2308 : 1 : D04(10)(+) APTT(-)		
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.					
383	6 : NITRON : MC7040			N/R : N/R : 1500 : 100 PF : 1 : SS : FAIL : 128398 : 1 : A0(-) APTT(+)		
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.					
383	7 : NITRON : MC7040			N/R : N/R : 1500 : 100 PF : 1 : SS : FAIL : 27769 : 1 : VSS(-) APTT(+)		
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.					

TECHNOLOGY: JFET

BASIC PART NUMBER	DESCRIPTION	DATE	TEST	RES.	FULL PART NUM.	CODE	DATE	(OHS)	CAP.	PULSES	TYPE	RESULT	VOLTAGE	DEV.	NUM.	PIN COMBINATION
030	542 : N/R															
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%															
11201	SWITCH, 4XSPST															
030	543 : N/R															
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%															
11331	SWITCH, 4XSPST															
030	544 : N/R															
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%															
13201	SWITCH, 4XSPST															
026	29 : SILICONIX															
	DC190AP															
	REMARK: VOLTAGE IS AN AVERAGE OF 4 DEVICES															
190	SWITCH, DRIVER AND JFET SW.															
4555B	DECODER, DUAL BINARY															
030	486 : N/R															
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%															
030	487 : N/R															
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%															

[illegible]

LP156 OF AMP

OP AMP . QUAD

6/3 : N/R : LF153 : N/R : N/R :

02 APR 1968

030 : 281 :

030	: 281	:	N/R	:	N/R	:	N/R	:	100 PP	:	1	:	N/R	:	FAIL	:	6000	:	1	:	N/R
-----	-------	---	-----	---	-----	---	-----	---	--------	---	---	---	-----	---	------	---	------	---	---	---	-----

030	: 282 :	N/R	: N/R :	N/R	: 1500 :	100 PF :	1	:	N/R	: FAIL :	6000	:	1	:	M/R
-----	---------	-----	---------	-----	----------	----------	---	---	-----	----------	------	---	---	---	-----

026 :	28 :	ADVANCED MICRO DEVICES :	LF156AH	N/R :	FEB 81 :	100 :	200 PF :	1 :	SS :	FAIL :	636 :	4 :	INPUT(2)(+)	V(-)(4)(-)
REMARK: VOLTAGE IS AN AVERAGE OF 4 DEVICES														
FAILURE CRITERIA: CHANGE IN ITO OF 500%														

157 OP AMP

[illegible]

FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

198 LINEAR, SAMPLE AND HOLD

	N/R	N/R	N/R	N/R	N/R	N/R
030 : 284 :	:	N/R : 1500 :	100 PF :	1 :	N/R : 2500 :	1 :
030 : 284 :	N/R	N/R	N/R	N/R	N/R	N/R

FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

34001 OF AMP . PRECISION BIFET

	027	:	3	:	MOTOCOLA SENTI		N/R	:	N/R	:	1500	:	100 PP	:	1	:	CN	:	FALL	:	1000	:	8	:	N/R
	028	:	3	:	MOTOCOLA SENTI		N/R	:	N/R	:	1500	:	100 PP	:	1	:	CN	:	FALL	:	1000	:	8	:	N/R

FAILURE CRITERIA: DC PARAMETER OUT OF SPEC

027 : 4 : MOTOROLA SEMI

FAILURE CRITERIA: DC PARAMETER OUT OF SPEC

OP AND QUAD

020 : 308 :

FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

03 MAY

030 : 310 :

[illegible]

FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

311 : N/A : 356A : N/A :
 FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

PATIENCE CATALYST: FASTER CHANGE OF GREATER LEAN FOR

TECHNOLOGY: BIFET
(CONTINUED)

BASIC PART NUMBER		DESCRIPTION													
SEC. :	SEQ. :	MANUFACTURER	FULL PART NUM. :	CODE :	DATE :	TEST :	RES. :	CAP. :	PULSES :	TYR :	RESULT :	VOLTAGE :	DEV. :	PIN :	CONFIRMATION
357		OP AMP													
030	312 :	N/R	N/R	N/R	N/R	1500 :	100 PF :	1 :	N/R :	FAIL :	6000 :	1 :			N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%															
398		LINEAR , SAMPLE AND HOLD													
030	313 :	N/R	N/R	N/R	N/R	1500 :	100 PF :	1 :	N/R :	FAIL :	2500 :	1 :			N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%															
740		OP AMP													
029	340 :	FAIRCHILD SEMI	UA740	N/R	N/R	1500 :	100 PF :	1 :	N/R :	FAIL :	14270 :	1 :			N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.															

TECHNOLOGY: BIPOLAR

BASIC PART NUMBER		DESCRIPTION		SRC. : SEQ. : CODE : NUM. :	MANUFACTURER	FULL PART NUM. :	DATE : TEST : RES. : CODE : DATE : (OHMS) :	CAP. : PULSES : TYPE : RESULT : VOLTAGE : DEV. :	NUM. : PIN COMBINATION
101	OP AMP								
030	259 :	N/R	: 101A	: N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1250 : 1 :					N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%								
030	674 :	N/R	: LM101	: N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 2500 : 1 :					N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%								
028	7 :	N/R	: LM101	: N/R : N/R : 1500 : 117 PF : 30 : SS : FAIL : 750 : 5 :					N/R
	FAILURE CRITERIA: 110-4UA								
101A	OP AMP								
026	11 :	FAIRCHILD SEMI	: UA101A	: N/R : JAN 78 : 100 : 200 PF : 1 : SS : FAIL : 293 : 4 : OFF NULL(5)(+) V(-)(4)					
	REMARK: VOLTAGE IS AN AVERAGE OF 4 DEVICES								
	FAILURE CRITERIA: CHANGE IN IIO OF 500%								
103	VOLTAGE REGULATOR , REFERENCE DIODE, 1.8V								
029	328 :	NATIONAL SEMI	: LM103	: N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 6152 : 1 :					N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.								
029	329 :	NATIONAL SEMI	: LM103	: N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 11040 : 1 :					N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.								
105	VOLTAGE REGULATOR , ADJUSTABLE, POSITIVE								
030	675 :	N/R	: LM105	: N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 4000 : 1 :					N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%								
029	330 :	NATIONAL SEMI	: LM105H	: N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 6767 : 1 :					N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.								
106	OP AMP								
030	260 :	N/R	: N/R	: N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1250 : 1 :					N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%								
030	261 :	N/R	: 108A	: N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1250 : 1 :					N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%								
030	676 :	N/R	: LM108	: N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1250 : 1 :					N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%								
245	31 :	N/R	: LM108	: N/R : N/R : 100 : .1 UF : 1 : SS : FAIL : 214 : 15 : INPUT(+) INPUT(-)					
	REMARK: FAILURE VOLTAGE IS AN AVERAGE OF 15 DEVICES.								
	FAILURE CRITERIA: D-C. PARAMETER OUT OF SPEC.								
109	VOLTAGE REGULATOR , FIXED, POSITIVE, 1A								
030	263 :	N/R	: 109K	: N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 10000 : 1 :					N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%								
030	262 :	N/R	: 109H	: N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 10000 : 1 :					N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%								
111	COMPARATOR								
029	256 : 10			: N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 611 : 1 :					N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.								

(CONTINUED)

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TECHNOLOGY: BIPOLAR
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION	SEQ. : CODE : NUM. :	MANUFACTURER	FULL PART NUM. :	DATE : CODE :	TEST : RES. : (OHMS) :	CAP. :	PULSES : TYPE :	RESULT : VOLTAGE :	DEV. :	NUM. : PIN COMBINATION
139	COMPARATOR , QUAD										
030	274 : FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	2000 : 1 : N/R
030	681 : FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	2000 : 1 : N/R
245	33 : REMARK: FAILURE VOLTAGE IS AN AVERAGE OF 15 DEVICES.	N/R	N/R	729	N/R	100	.1 UF	1	SS	FAIL	102 : 15 : V+(+) INPUT(-)
140	VOLTAGE REGULATOR , FIXED POSITIVE, 1.5A										
030	275 : FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	10000 : 1 : N/R
030	278 : FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	10000 : 1 : N/R
030	114 : FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	10000 : 1 : N/R
030	276 : FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	10000 : 1 : N/R
030	277 : FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	10000 : 1 : N/R
1408	CONVERTER (D/A A/D) , 8 BIT D/A										
030	327 : FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	5000 : 1 : N/R
030	328 : FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	5000 : 1 : N/R
030	329 : FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	5000 : 1 : N/R
1458	OP AMP , DUAL										
030	330 : FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	2500 : 1 : N/R
030	331 : FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	2500 : 1 : N/R
1463	VOLTAGE REGULATOR , ADJUSTABLE, NEGATIVE										
030	332 : FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	10000 : 1 : N/R
030	333 : FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	10000 : 1 : N/R
146	OP AMP , QUAD										
030	279 : FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%	N/R	N/R	N/R	N/R	1500	100 PF	1	N/R	FAIL	2500 : 1 : N/R

[illegible]110

TECHNOLOGY: BIPOLAR
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

SBC. : SEQ. : : DATE : TEST : RES. : : NUMBER : TEST : : NUM. :
CODE : NUM. : MANUFACTURER : FULL PART NUM. : CODE : DATE : (OHMS) : CAP. : PULSES : TYPE : RESULT : VOLTAGE : DEV. : PIN COMBINATION

1533 OP AMP

029 : 334 : MOTOROLA SEMI : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1413 : 1 : N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.

1558 OP AMP , DUAL

030 : 343 : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 2500 : 1 : N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

1563 VOLTAGE REGULATOR , ADJUSTABLE, POSITIVE

030 : 344 : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 3000 : 1 : N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

1590 OP AMP , DIFFERENTIAL IN/OUT

030 : 345 : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 7000 : 1 : N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

1594 LINEAR , MULTIPLIER

030 : 346 : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 2000 : 1 : N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

1596 LINEAR , MOD./DEMOM.

030 : 347 : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 3000 : 1 : N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

211 COMPARTOR

030 : 285 : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 11000 : 1 : N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

2622 OP AMP

030 : 662 : HARRIS SEMI : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 2000 : 1 : N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

030 : 663 : INTERSIL : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 2000 : 1 : N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

030 : 671 : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 3000 : 1 : N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

2650 OP AMP , DUAL HIGH SPEED

030 : 672 : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1500 : 1 : N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

TECHNOLOGY: BIPOLAR
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

SRC. : SEQ. : : DATE : TEST : RES. : : NUMBER : TEST : : : :
CODE : NUM. : MANUFACTURER : FULL PART NUM. : CODE : DATE : (OHMS) : CAP. : PULSES : TYPE : RESULT : VOLTAGE : DEV. : PIN COMBINATION

2702 VOLTAGE REFERENCE, +10V

030 : 357 : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1000 : 1 : N/R

FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

301 OP AMP

030 : 286 : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1250 : 1 : N/R

FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

3015 OP AMP, WIDE BAND

029 : 327 : RCA : CA3015A : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1958 : 1 : N/R

REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.

302 OP AMP, VOLTAGE FOLLOWER

029 : 331 : NATIONAL SEMI : LM302 : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 10899 : 1 : N/R

REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.

308 OP AMP

030 : 287 : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1250 : 1 : N/R

FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

030 : 288 : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1250 : 1 : N/R

FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

309 VOLTAGE REGULATOR, FIXED, POSITIVE

030 : 289 : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 10000 : 1 : N/R

FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

030 : 290 : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 10000 : 1 : N/R

FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

030 : 291 : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 10000 : 1 : N/R

FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

311 COMPARATOR

030 : 292 : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 11000 : 1 : N/R

FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

030 : 293 : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 10000 : 1 : N/R

FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

317 VOLTAGE REGULATOR, ADJUSTABLE, POSITIVE

030 : 294 : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 10000 : 1 : N/R

FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

TECHNOLOGY: BIPOLAR
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION	SRC. : SEQ. : CODE : NUM. :	MANUFACTURER	FULL PART NUM. :	DATE : TEST : RES. : CODE : DATE : (OHMS) :	CAP. : PULSES : TYPE : RESULT : CAP. : PULSES : TYPE : RESULT :	NUM. : DEV. :	PIN COMBINATION
318	OP AMP , HIGH SPEED							
		030 : 295 :	N/R	N/R	N/R : 1500 : 100 PF :	1 : N/R : FAIL : 11000 :	1 :	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%							
319	COMPARATOR							
		030 : 296 :	N/R	N/R	N/R : 1500 : 100 PF :	1 : N/R : FAIL : 1500 :	1 :	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%							
320	VOLTAGE REGULATOR , FIXED, NEGATIVE							
		030 : 297 :	N/R	N/R	N/R : 1500 : 100 PF :	1 : N/R : FAIL : 10000 :	1 :	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%							
		030 : 298 :	N/R	N/R	N/R : 1500 : 100 PF :	1 : N/R : FAIL : 10000 :	1 :	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%							
		030 : 299 :	N/R	N/R	N/R : 1500 : 100 PF :	1 : N/R : FAIL : 10000 :	1 :	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%							
		030 : 300 :	N/R	N/R	N/R : 1900 : 100 PF :	1 : N/R : FAIL : 10000 :	1 :	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%							
324	OP AMP , SINGLE SUPPLY							
		030 : 301 :	N/R	N/R	N/R : 1500 : 100 PF :	1 : N/R : FAIL : 1500 :	1 :	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%							
339	COMPARATOR , QUAD							
		030 : 302 :	N/R	N/R	N/R : 1500 : 100 PF :	1 : N/R : FAIL : 2000 :	1 :	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%							
340	VOLTAGE REGULATOR , FIXED, POSITIVE							
		030 : 303 :	N/R	N/R	N/R : 1500 : 100 PF :	1 : N/R : FAIL : 10000 :	1 :	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%							
		030 : 304 :	N/R	N/R	N/R : 1500 : 100 PF :	1 : N/R : FAIL : 10000 :	1 :	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%							
		030 : 305 :	N/R	N/R	N/R : 1500 : 100 PF :	1 : N/R : FAIL : 10000 :	1 :	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%							
		030 : 306 :	N/R	N/R	N/R : 1500 : 100 PF :	1 : N/R : FAIL : 10000 :	1 :	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%							
		030 : 307 :	N/R	N/R	N/R : 1500 : 100 PF :	1 : N/R : FAIL : 10000 :	1 :	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%							
3403	OP AMP , SINGLE SUPPLY							
		027 : 5 :	MOTOROLA SEMI	N/R	N/R : 1500 : 100 PF :	1 : CN : FAIL : 1000 :	6 :	N/R
	FAILURE CRITERIA: DC PARAMETER OUT OF SPEC							
		027 : 6 :	MOTOROLA SEMI	N/R	N/R : 1500 : 100 PF :	1 : CN : PASS : 1000 :	9 :	N/R
	FAILURE CRITERIA: DC PARAMETER OUT OF SPEC							

TECHNOLOGY: BIPOLAR
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION	SRC. : SEQ. : CODE : NOM. :	MANUFACTURER	FULL PART NUM. :	DATE : TEST : RES. : CODE : DATE : (OHMS) :	CAP. : PULSES : TYPE : RESULT : CAP. : PULSES : TYPE : RESULT :	NUM. : VOLTAGE : DEV. :	PIN COMBINATION
344	OP AMP , HIGH VOLTAGE							
052	1 : NATIONAL SEMI REMARK: EACH PIN TESTED TO ALL OTHERS TIED TOGETHER		LM344H	N/R : JUN 81 : 0 : 100 PF : 1 : SS : FAIL : 400 : 1 : EACH PIN				
052	2 : NATIONAL SEMI REMARK: EACH PIN TESTED TO ALL OTHERS TIED TOGETHER		LM344H	N/R : JUN 81 : 0 : 100 PF : 1 : SS : FAIL : 500 : 1 : EACH PIN				
052	3 : NATIONAL SEMI REMARK: EACH PIN TESTED TO ALL OTHERS TIED TOGETHER		N/R	N/R : JUN 81 : 0 : 100 PF : 1 : SS : FAIL : 600 : 3 : EACH PIN				
053	1 : NATIONAL SEMI REMARK: EACH PIN TESTED TO ALL OTHERS TIED TOGETHER		LM344H	N/R : JUN 81 : 1500 : 100 PF : 1 : SS : PASS : 1500 : 2 : EACH PIN				
348	OP AMP , QUAD							
030	N/R : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 2500 : 1 : N/R							
3600	CONVERTER (D/A A/D)							
029	336 : TEXAS INSTRUMENTS REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.		SNR3600	N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 12930 : 1 : N/R				
4131	OP AMP							
030	682 : N/R FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%		RM4131	N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 2500 : 1 : N/R				
4558	OP AMP , DUAL							
030	683 : N/R FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%		RM4558	N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1750 : 1 : N/R				
532	LINEAR , MULTIPLIER/DIVIDER							
030	316 : N/R FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%		532S	N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1250 : 1 : N/R				
030	317 : N/R FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%		532J	N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1250 : 1 : N/R				
030	667 : N/R FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%		AD532	N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1250 : 1 : N/R				
55107	RECEIVER , DUAL LINE							
245	37 : N/R REMARK: FAILURE VOLTAGE IS AN AVERAGE OF 15 DEVICES.		N/R	7730 : N/R : 100 : .1 UF : 1 : SS : FAIL : 41 : 15 : INPUT(+) INPUT(-)				
55109	DRIVER , DUAL LINE							
245	38 : N/R REMARK: FAILURE VOLTAGE IS AN AVERAGE OF 15 DEVICES.		N/R	7646 : N/R : 100 : .1 UF : 1 : SS : FAIL : 84 : 15 : INPUT(+) GND(-)				

TECHNOLOGY: BIPOLAR
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

SRC. : SEQ. : MANUFACTURER : DATE : TEST : RES. : : NUMBER : TEST : : NUM. :
CODE : NUM. : : FULL PART NUM. : CODE : DATE : (OHMS): CAP. : PULSES : TYPE : RESULT: VOLTAGE: DEV. : PIN COMBINATION

555 LINEAR, PROGRAMMABLE TIMER

026 : 7 : SIGNETICS : SE555C : N/R : JAN 78 : 100 : 200 PF : 1 : SS : FAIL : 296 : 4 : N/R
REMARK: VOLTAGE IS AN AVERAGE OF 4 DEVICES
030 : 318 : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1700 : 1 : N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%
030 : 319 : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1700 : 1 : N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

556 LINEAR, DUAL TIMER

030 : 320 : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1700 : 1 : N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

709 OP AMP

029 : 338 : FAIRCHILD SEMI : UA709 : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1984 : 1 : N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.
029 : 344 : FAIRCHILD SEMI : 709HC : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1565 : 1 : N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.

710 COMPARATOR, DIFFERENTIAL

026 : 13 : FAIRCHILD SEMI : UA710 : N/R : JAN 78 : 100 : 200 PF : 1 : SS : FAIL : 238 : 4 : INPUT(3)(+) V(-)(4)(-)
REMARK: VOLTAGE IS AN AVERAGE OF 4 DEVICES
FAILURE CRITERIA: CHANGE IN 110 OF 500%

715 OP AMP, HIGH SPEED

029 : 339 : FAIRCHILD SEMI : UA715 : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 15546 : 1 : N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.

723 VOLTAGE REGULATOR, ADJUSTABLE, POSITIVE

030 : 321 : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1000 : 1 : N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%
030 : 322 : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1000 : 1 : N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%
245 : 34 : N/R : N/R : 725 : N/R : 100 : .1 UF : 1 : SS : FAIL : 50 : 15 : INPUT(+) INPUT(-)
REMARK: FAILURE VOLTAGE IS AN AVERAGE OF 15 DEVICES.
FAILURE CRITERIA: D.C. PARAMETER OUT OF SPEC.
026 : 12 : FAIRCHILD SEMI : UA723 : N/R : JAN 78 : 100 : 200 PF : 1 : SS : FAIL : 273 : 4 : V(-)(5)(+) VREF(4)(-)
REMARK: VOLTAGE IS AN AVERAGE OF 4 DEVICES
FAILURE CRITERIA: 2% CHANGE OF VOUT AT IL=50UA

72709 OP AMP

029 : 337 : TEXAS INSTRUMENTS : SN72709 : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 53665 : 1 : N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.

733 AMP, DIFFERENTIAL, VIDEO

030 : 665 : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1500 : 1 : N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

[illegible]

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741 OP AMP

054 : 1 : TEXAS INSTRUMENTS : UA741 : 7945 : JAN 81 : 1500 : 100 PF : 1 : SS : PAIL : 1000 : 2 : EACH PIN

747 OP AMP , DUAL

776 OP AMP

78H05 VOLTAGE REGULATOR , FIXED, POSITIVE

78905 VOLTAGE REGULATOR , POSITIVE, FIXED

030 : 244 : N/R : 7805C : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 10000 : 1 : N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

TECHNOLOGY: BIPOLAR
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

SRC. : SEQ. : MANUFACTURER : FULL PART NUM. : DATE : TEST : RES. : NUMBER : TEST : : NUM. :
CODE : NUM. : : : : : : : CAP. : PULSES : TYPE : RESULT : VOLTAGE : DEV. : PIN COMBINATION

78M12 VOLTAGE REGULATOR , FIXED, POSITIVE

030 : 245 : N/R : 78M12C : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 10000 : 1 : N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

78M15 VOLTAGE REGULATOR , FIXED, POSITIVE

030 : 246 : N/R : 78M15C : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 10000 : 1 : N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

7805 VOLTAGE REGULATOR , FIXED, POSITIVE

030 : 524 : N/R : 7805C : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 10000 : 1 : N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

7812 VOLTAGE REGULATOR , FIXED, POSITIVE

030 : 666 : N/R : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 10000 : 1 : N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%
030 : 525 : N/R : 7812C : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 10000 : 1 : N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%
030 : 526 : N/R : 7812C : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 10000 : 1 : N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

7815 VOLTAGE REGULATOR , FIXED, POSITIVE

030 : 527 : N/R : 7815C : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 10000 : 1 : N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

79M12 VOLTAGE REGULATOR , FIXED, NEGATIVE

030 : 247 : N/R : 79M12C : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 10000 : 1 : N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

79M15 VOLTAGE REGULATOR , FIXED, NEGATIVE

030 : 248 : N/R : 79M15C : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 10000 : 1 : N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

7905 VOLTAGE REGULATOR , FIXED, NEGATIVE

030 : 529 : N/R : 7905C : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 10000 : 1 : N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%
030 : 530 : N/R : 7905C : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 10000 : 1 : N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

7912 VOLTAGE REGULATOR , FIXED, NEGATIVE

030 : 531 : N/R : 7912C : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 10000 : 1 : N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

BASIC PART NUMBER	DESCRIPTION
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(CONTINUED)

7915 VOLTAGE REGULATOR - FIXED, NEGATIVE

7924 VOLTAGE REGULATOR : FIXED, NEGATIVE

8820 RECEIVER, DIFFERENTIAL LINE

9614 DRIVER : DUAL LINE

9615 RECEIVER, DUAL LINE

REMARK: VOLTAGE IS AN AVERAGE OF 4 DEVICES

9616 DRIVER - SINGLE ENDED LINE

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245 : 36 : N/R : N/R : 7730 : N/R : 100 : .1 UF : 1 : SS : FAIL : 112 : 15 : INPUT(+) INPUT(-)
REMARK: FAILURE VOLTAGE IS AN AVERAGE OF 15 DEVICES.
FAILURE CRITERIA: D.C. PARAMETER OUT OF SPEC.

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TECHNOLOGY: TTL

BASIC PART NUMBER DESCRIPTION

SEC.: SEQ.: : DATE: TEST: RES.: : NUMBER: TEST: : : NUM.:
CODE: NUM.: MANUFACTURER: FULL PART NUM.: CODE: DATE: (OBS): CAP.: PULSES: TYPE: RESULT: VOLTAGE: DEV.: PIN COMBINATION

140 GATE, NAND

029 : 288 : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 177676 : 1 : N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.

2001 SHIFT REGISTER

029 : 266 : TEXAS INSTRUMENTS : DE42001D : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 7583 : 1 : N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.

4006 DECODER, BINARY TO OCTAL

029 : 282 : MOTOROLA SEMI : MC4006 : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 4951 : 1 : N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.

4043 DRIVER, DUAL MEMORY

029 : 283 : MOTOROLA SEMI : MC4043P : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 6783 : 1 : N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.

5400 GATE, QUAD 2-INPUT NAND

245 : 2 : N/R : N/R : 7618 : N/R : 100 : .1 UF : 1 : SS : FAIL : 99 : 15 : INPUT(+) GND(-)
REMARK: FAILURE VOLTAGE IS AN AVERAGE OF 15 DEVICES. FAILURE CRITERIA: D.C. PARAMETER OUT OF SPEC.
026 : 2 : TEXAS INSTRUMENTS : N/R : N/R : JAN 78 : 100 : 200 PF : 1 : SS : FAIL : 763 : 4 : INPUT(1)(+) GND(7)(-)
REMARK: VOLTAGE IS AN AVERAGE OF 4 DEVICES FAILURE CRITERIA: 10% PARAMETER CHANGE
026 : 3 : NATIONAL SEMI : N/R : N/R : JAN 78 : 100 : 200 PF : 1 : SS : FAIL : 625 : 4 : INPUT(1)(+) GND(7)(-)
REMARK: VOLTAGE IS AN AVERAGE OF 4 DEVICES FAILURE CRITERIA: 10% PARAMETER CHANGE

5404 BUFFER/INVERTER, HEX INVERTER

030 : 492 : N/R : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 2500 : 1 : N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%
321 : 1 : N/R : N/R : N/R : N/R : 1500 : 100 PF : 200 : CN : PASS : 1000 : 2 : VCC(14)(+) IN.(1)(-)
FAILURE CRITERIA: I_{IH} AND/OR V_R OUT OF SPEC.
331 : 1 : N/R : N/R : N/R : N/R : 1500 : 200 PF : 200 : CN : PASS : 1500 : 1 : VCC(14)(+) IN.(1)(-)
FAILURE CRITERIA: I_{IH} AND/OR V_R OUT OF SPEC.
332 : 1 : N/R : N/R : N/R : N/R : 1500 : 200 PF : 200 : CN : PASS : 1575 : 1 : VCC(14)(+) IN.(1)(-)
FAILURE CRITERIA: I_{IH} AND/OR V_R OUT OF SPEC.
333 : 1 : N/R : N/R : N/R : N/R : 1500 : 200 PF : 1 : CN : FAIL : 1615 : 1 : VCC(14)(+) IN.(1)(-)
FAILURE CRITERIA: I_{IH} AND V_R OUT OF SPEC.
334 : 1 : N/R : N/R : N/R : N/R : 1500 : 200 PF : 1 : CN : PASS : 1630 : 1 : VCC(14)(+) IN.(1)(-)
FAILURE CRITERIA: I_{IH} AND/OR V_R OUT OF SPEC.
335 : 1 : N/R : N/R : N/R : N/R : 1500 : 200 PF : 2 : CN : FAIL : 1650 : 1 : VCC(14)(+) IN.(1)(-)
FAILURE CRITERIA: V_R OUT OF SPEC.
335 : 2 : N/R : N/R : N/R : N/R : 1500 : 200 PF : 3 : CN : FAIL : 1650 : 2 : VCC(14)(+) IN.(1)(-)
FAILURE CRITERIA: V_R OUT OF SPEC.
335 : 3 : N/R : N/R : N/R : N/R : 1500 : 200 PF : 4 : CN : FAIL : 1650 : 1 : VCC(14)(+) IN.(1)(-)
FAILURE CRITERIA: V_R OUT OF SPEC.
335 : 4 : N/R : N/R : N/R : N/R : 1500 : 200 PF : 50 : CN : FAIL : 1650 : 1 : VCC(14)(+) IN.(1)(-)
FAILURE CRITERIA: I_{IH} AND V_R OUT OF SPEC.

TECHNOLOGY: TTL
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

SEC. : SEQ. : CODE : NUM. :	MANUFACTURER	FULL PART NUM. :	DATE : TEST : RES. :	DATE : CODE :	(OHMS) :	CAP. :	PULSES :	TYPE :	TEST :	NUMBER :	TEST :	NUM. :
5404	BUFFER/INVERTER, HEX INVERTER											
335	5 :	N/R :	N/R :	N/R :	N/R :	1500 :	200 PF :	150 :	GN :	FAIL :	1650 :	1 : VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: I1H AND VR OUT OF SPEC.											
335	6 :	N/R :	N/R :	N/R :	N/R :	1500 :	200 PF :	2 :	GN :	PASS :	1650 :	1 : VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: VR OUT OF SPEC.											
336	1 :	N/R :	N/R :	N/R :	N/R :	1500 :	200 PF :	1 :	GN :	PASS :	1670 :	1 : VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: I1H AND/OR VR OUT OF SPEC.											
337	1 :	N/R :	N/R :	N/R :	N/R :	1500 :	200 PF :	3 :	GN :	FAIL :	1675 :	1 : VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: VR OUT OF SPEC.											
337	2 :	N/R :	N/R :	N/R :	N/R :	1500 :	200 PF :	2 :	GN :	FAIL :	1675 :	1 : VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: I1H AND VR OUT OF SPEC.											
337	3 :	N/R :	N/R :	N/R :	N/R :	1500 :	200 PF :	200 :	GN :	PASS :	1675 :	1 : VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: I1H AND/OR VR OUT OF SPEC.											
338	1 :	N/R :	N/R :	N/R :	N/R :	1500 :	200 PF :	1 :	GN :	FAIL :	1700 :	1 : VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: VR OUT OF SPEC.											
338	2 :	N/R :	N/R :	N/R :	N/R :	1500 :	200 PF :	2 :	GN :	FAIL :	1700 :	2 : VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: VR OUT OF SPEC.											
338	3 :	N/R :	N/R :	N/R :	N/R :	1500 :	200 PF :	4 :	GN :	FAIL :	1700 :	2 : VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: I1H AND VR OUT OF SPEC.											
338	4 :	N/R :	N/R :	N/R :	N/R :	1500 :	200 PF :	4 :	GN :	FAIL :	1700 :	1 : VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: VR OUT OF SPEC.											
338	5 :	N/R :	N/R :	N/R :	N/R :	1500 :	200 PF :	200 :	GN :	PASS :	1700 :	1 : VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: I1H AND/OR VR OUT OF SPEC.											
338	6 :	N/R :	N/R :	N/R :	N/R :	1500 :	200 PF :	2 :	GN :	FAIL :	1700 :	1 : VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: VR OUT OF SPEC.											
339	1 :	N/R :	N/R :	N/R :	N/R :	1500 :	200 PF :	1 :	GN :	PASS :	1730 :	1 : VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: I1H AND/OR VR OUT OF SPEC.											
340	1 :	N/R :	N/R :	N/R :	N/R :	1500 :	200 PF :	1 :	GN :	PASS :	1750 :	1 : VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: I1H AND/OR VR OUT OF SPEC.											
340	2 :	N/R :	N/R :	N/R :	N/R :	1500 :	200 PF :	50 :	GN :	FAIL :	1750 :	1 : VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: I1H AND VR OUT OF SPEC.											
340	3 :	N/R :	N/R :	N/R :	N/R :	1500 :	200 PF :	1 :	GN :	FAIL :	1750 :	1 : VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: VR OUT OF SPEC.											
340	4 :	N/R :	N/R :	N/R :	N/R :	1500 :	200 PF :	1 :	GN :	FAIL :	1750 :	1 : VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: I1H AND VR OUT OF SPEC.											
340	5 :	N/R :	N/R :	N/R :	N/R :	1500 :	200 PF :	2 :	GN :	FAIL :	1750 :	3 : VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: I1H AND VR OUT OF SPEC.											
340	6 :	N/R :	N/R :	N/R :	N/R :	1500 :	200 PF :	3 :	GN :	FAIL :	1750 :	1 : VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: I1H AND VR OUT OF SPEC.											
340	7 :	N/R :	N/R :	N/R :	N/R :	1500 :	200 PF :	4 :	GN :	FAIL :	1750 :	1 : VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: I1H AND VR OUT OF SPEC.											
340	8 :	N/R :	N/R :	N/R :	N/R :	1500 :	200 PF :	1 :	GN :	FAIL :	1750 :	1 : VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: VR OUT OF SPEC.											
340	9 :	N/R :	N/R :	N/R :	N/R :	1500 :	200 PF :	1 :	GN :	PASS :	1750 :	6 : VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: I1H AND/OR VR OUT OF SPEC.											
340	10 :	N/R :	N/R :	N/R :	N/R :	1500 :	200 PF :	3 :	GN :	FAIL :	1750 :	1 : VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: I1H AND VR OUT OF SPEC.											
340	11 :	N/R :	N/R :	N/R :	N/R :	1500 :	200 PF :	4 :	GN :	FAIL :	1750 :	1 : VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: VR OUT OF SPEC.											

[illegible]

3404 BUFFER/INVERT, HEX INVERT

3406 DRIVER, HEX INVERTER BUFFER

FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

BASIC PART NUMBER	DESCRIPTION					
SERIAL : SEQ.	: DATE : TEST : RES. :					
CODE : MANUFACTURER	: FULL PART NUM. : CODE : DATE : CAP. : PULSES : TYPE : RESULT : VOLTAGE : DEV. :					
M/NR.:	:					
DRIVER , REL BUFFER						
O30 : 494 :	N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 2500 : 1 :					
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%						
DRIVER , DUAL FULSE SYNCHRO.						
O30 : 561 :	N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 2500 : 1 :					
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%						
DRIVER , QUAD 2 INPUT NOR						
O30 : 562 :	N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 2500 : 1 :					
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%						
MULTIPLEXER , DUAL 4-INPUT						
245 : 3 :	N/R : N/R : N/R : 100 : .1 UP : 1 : SS : FAIL : 78 : 15 : INPUT(+) GND(-)					
REMARK: FAILURE VOLTAGE IS AN AVERAGE OF 15 DEVICES. FAILURE CRITERIA: D.C. PARAMETER OUT OF SPEC.						
DECODER , 4 TO 16 LINE						
O30 : 563 :	N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 2500 : 1 :					
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%						
SSI/MSI , LOOK-AHEAD CARRY GEN						
O30 : 120 :	N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1000 : 1 :					
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%						
O30 : 564 :	N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 2500 : 1 :					
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%						
GATE , DUAL NAND						
O29 : 293 :	TEXAS INSTRUMENTS : SN54208 : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 2230 : 1 :					
REMARK: FAILURE VOLTAGCE OBTAINED FROM EMP DATA AND MUNSCH MODEL.						
GATE , DUAL 4 INPUT AND						
O03 : 8 :	SIGMETICS : N/R : 7329 : NOV 75 : 0 : 100 PF : 1 : SS : FAIL : 700 : 1 : INPUT(+) PR. SUPPLY (-)					
O04 : 5 :	SIGMETICS : N/R : 7329 : NOV 75 : 0 : 125 PF : 1 : SS : FAIL : 1400 : 1 : INPUT					
REMARK: INPUTS STRESSED WITH NO PINS GROUNDED. CAPACITANCE OF PACKAGE TO GND. KS 3TFF						
GATE , DUAL 4 INPUT NOR						
O30 : 495 :	N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 2500 : 1 :					
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%						

[illegible]

5437 GATE - QUAD 2 INPUT NAND

FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

5438 GATE - QUAD 2 INPUT NAND

FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

5445 DECODER , BCD TO DECIMAL

FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

5446 DRIVER , BCD TO 7-SEGMENT

FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

SSI/MSI . 4-BIT BIN FULL ADDER
5483

REMARK: FAILURE VOLTAGE IS AN AVERAGE OF 15 DEVICES. FAILURE CRITERIA: D.C. PARAMETER OUT OF SPEC.

55461 DRIVER DUAL PERIPHERAL AND

FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

55462 DRIVER - DUAL PERIPHERAL NAND

FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

55463 DRIVER - DUAL PERIPHERAL OR

FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

55464 DRIVER - DUAL PERIPHERAL NOR

FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

030 : 569 : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 3000 : 1 :

FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

7400 GATE , QUAD 2 INPUT NAND

REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL:

TECHNOLOGY: TTL
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION	DATE : TEST : RES. :	NUMBER : TEST :	NUM. :	PIN COMBINATION
SEC. : SEQ. :	MANUFACTURER	DATE : TEST : RES. :	NUMBER : TEST :	NUM. :	PIN COMBINATION
CODE : NUM. :		DATE : TEST : RES. :	NUMBER : TEST :	NUM. :	PIN COMBINATION
7400	GATE, QUAD 2 INPUT NAND	DATE : TEST : RES. :	NUMBER : TEST :	NUM. :	PIN COMBINATION
029	286 : SIGNETICS	N/R : N/R : 1500 : 100 PF :	1 : N/R : FAIL :	9032 : 1 :	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.				
029	301 : TEXAS INSTRUMENTS	N/R : N/R : 1500 : 100 PF :	1 : N/R : FAIL :	4401 : 1 :	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.				
029	310 : FAIRCHILD SEMI	N/R : N/R : 1500 : 100 PF :	1 : N/R : FAIL :	3234 : 1 :	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.				
028	4 : N/R	N/R : N/R : 1500 : 117 PF :	30 : SS : FAIL :	1500 : 5 :	N/R
	FAILURE CRITERIA: 1H-97UA				
7402	GATE, QUAD 2 INPUT NOR	DATE : TEST : RES. :	NUMBER : TEST :	NUM. :	PIN COMBINATION
029	302 : TEXAS INSTRUMENTS	N/R : N/R : 1500 : 100 PF :	1 : N/R : FAIL :	5485 : 1 :	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.				
7404	BUFFER/INVERTER, HEX INVERTER	DATE : TEST : RES. :	NUMBER : TEST :	NUM. :	PIN COMBINATION
030	511 : N/R	N/R : N/R : 1500 : 100 PF :	1 : N/R : FAIL :	2500 : 1 :	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%				
7406	DRIVER, HEX INVERTER BUFFER	DATE : TEST : RES. :	NUMBER : TEST :	NUM. :	PIN COMBINATION
030	512 : N/R	N/R : N/R : 1500 : 100 PF :	1 : N/R : FAIL :	2500 : 1 :	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%				
7407	DRIVER, HEX BUFFER	DATE : TEST : RES. :	NUMBER : TEST :	NUM. :	PIN COMBINATION
030	513 : N/R	N/R : N/R : 1500 : 100 PF :	1 : N/R : FAIL :	2500 : 1 :	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%				
74120	DRIVER, DUAL PULSE SYNCHRO.	DATE : TEST : RES. :	NUMBER : TEST :	NUM. :	PIN COMBINATION
030	570 : N/R	N/R : N/R : 1500 : 100 PF :	1 : N/R : FAIL :	2500 : 1 :	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%				
741	DRIVER, QUAD 2 INPUT NOR	DATE : TEST : RES. :	NUMBER : TEST :	NUM. :	PIN COMBINATION
030	571 : N/R	N/R : N/R : 1500 : 100 PF :	1 : N/R : FAIL :	2500 : 1 :	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%				
7413	SSI/MSI, NAND SCHMITT TRIGGER	DATE : TEST : RES. :	NUMBER : TEST :	NUM. :	PIN COMBINATION
029	303 : TEXAS INSTRUMENTS	N/R : N/R : 1500 : 100 PF :	1 : N/R : FAIL :	7441 : 1 :	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.				
74154	DECODER, 4 TO 16 LINE	DATE : TEST : RES. :	NUMBER : TEST :	NUM. :	PIN COMBINATION
030	572 : N/R	N/R : N/R : 1500 : 100 PF :	1 : N/R : FAIL :	2500 : 1 :	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%				

TECHNOLOGY: TTL
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

SEC. : SEQ. :
CODE : NUM. : MANUFACTURER : FULL PART NUM. : DATE : TEST : RES. : : NUMBER : TEST : : NUM. :
PULSES : TYPE : RESULT : VOLTAGE : DEV. : PIN COMBINATION

74163 COUNTER, BINARY, SYNCHRONOUS

029 : 304 : TEXAS INSTRUMENTS : SN74163N : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 3733 : 1 : N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.
234 : 4 : N/R : N/R : N/R : N/R : 0 : 62 PF : 1 : SS : FAIL : 300 : 1 : IN.(6)(+) GND(8)(-)
REMARK: INPUT PIN 2 FAILED AT 400V. FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE
234 : 5 : N/R : N/R : N/R : N/R : 0 : 62 PF : 1 : SS : FAIL : 500 : 1 : IN.(6)(+) GND(8)(-)
FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE
234 : 6 : N/R : N/R : N/R : N/R : 0 : 62 PF : 1 : SS : FAIL : 300 : 1 : IN.(6)(+) GND(8)(-)
REMARK: INPUT PIN 2 FAILED AT 500V. FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE
235 : 4 : N/R : N/R : N/R : N/R : 0 : 120 PF : 1 : SS : FAIL : 200 : 2 : IN.(6)(+) GND(8)(-)
REMARK: INPUT PIN 2 FAILED AT 300V. FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE
235 : 5 : N/R : N/R : N/R : N/R : 0 : 120 PF : 1 : SS : FAIL : 200 : 3 : IN.(6)(+) GND(8)(-)
FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE
236 : 5 : N/R : N/R : N/R : N/R : 0 : 510 PF : 1 : SS : FAIL : 100 : 2 : IN.(6)(+) GND(8)(-)
REMARK: INPUT PIN 2 FAILED AT 200V. FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE
236 : 6 : N/R : N/R : N/R : N/R : 0 : 510 PF : 1 : SS : FAIL : 200 : 1 : IN.(2,6,10)(+) GND(-)
FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE
236 : 7 : N/R : N/R : N/R : N/R : 0 : 510 PF : 1 : SS : FAIL : 200 : 1 : IN.(2,6)(+) GND(8)(-)
REMARK: INPUT PIN 10 FAILED AT 300V. FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE
236 : 8 : N/R : N/R : N/R : N/R : 0 : 510 PF : 1 : SS : FAIL : 300 : 1 : IN.(2,6)(+) GND(8)(-)
FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE
237 : 6 : N/R : N/R : N/R : N/R : 0 : .001 UF : 1 : SS : FAIL : 100 : 2 : IN.(10)(+) GND(8)(-)
REMARK: INPUT PINS 2 AND 6 FAILED AT 200V. FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE
237 : 7 : N/R : N/R : N/R : N/R : 0 : .001 UF : 1 : SS : FAIL : 100 : 1 : IN.(6,10)(+) GND(8)(-)
REMARK: INPUT PIN 2 FAILED AT 200V. FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE
237 : 8 : N/R : N/R : N/R : N/R : 0 : .001 UF : 1 : SS : FAIL : 200 : 1 : IN.(2,6)(+) GND(8)(-)
FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE
237 : 9 : N/R : N/R : N/R : N/R : 0 : .001 UF : 1 : SS : FAIL : 100 : 1 : IN.(6)(+) GND(8)(-)
REMARK: INPUT PINS 2 AND 10 FAILED AT 200V. FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE
238 : 3 : N/R : N/R : N/R : N/R : 0 : .01 UF : 1 : SS : FAIL : 100 : 4 : IN.(2,6,10)(+) GND(-)
FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE

74173 FLIP-FLOP, QUAD D

234 : 7 : N/R : N/R : N/R : N/R : 0 : 62 PF : 1 : SS : PASS : 500 : 3 : IN(7,11,15)(+) GND(-)
FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE
235 : 6 : N/R : N/R : N/R : N/R : 0 : 120 PF : 1 : SS : PASS : 500 : 3 : IN(7,11,15)(+) GND(-)
FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE
235 : 7 : N/R : N/R : N/R : N/R : 0 : 120 PF : 1 : SS : FAIL : 400 : 1 : IN.(7)(+) GND(8)(-)
FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE
235 : 8 : N/R : N/R : N/R : N/R : 0 : 120 PF : 1 : SS : FAIL : 500 : 1 : IN.(7)(+) GND(8)(-)
FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE
236 : 9 : N/R : N/R : N/R : N/R : 0 : 510 PF : 1 : SS : FAIL : 300 : 4 : IN(7,11,15)(+) GND(-)
FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE
236 : 10 : N/R : N/R : N/R : N/R : 0 : 510 PF : 1 : SS : FAIL : 200 : 1 : IN.(11)(+) GND(8)(-)
REMARK: INPUT PINS 7 AND 15 FAILED AT 300V. FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE
237 : 10 : N/R : N/R : N/R : N/R : 0 : .001 UF : 1 : SS : FAIL : 400 : 1 : IN(7,11,15)(+) GND(-)
FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE
237 : 11 : N/R : N/R : N/R : N/R : 0 : .001 UF : 1 : SS : FAIL : 300 : 2 : IN(7,11,15)(+) GND(-)
FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE

TECHNOLOGY: TTL
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

SEC. : SEQ. : DATE : TEST : RES. : NUMBER : TEST : : NUM. :
CODE : NUM. : MANUFACTURER : FULL PART NUM. : CODE : DATE : (OWMS) : CAP. : PULSES : TYPE : RESULT : VOLTAGE : DEV. : PIN COMBINATION

74173 FLIP-FLOP, QUAD D
(CONTINUED)

237 : 12 : N/R : N/R : N/R : 0 : .001 UF : 1 : SS : FAIL : 300 : 2 : IN.(7)(+) GND(8)(-)
FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE
238 : 4 : N/R : N/R : N/R : 0 : .01 UF : 1 : SS : FAIL : 100 : 1 : IN.(11,15)(+) GND(-)
REMARK: INPUT PIN 7 FAILED AT 200V. FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE
238 : 5 : N/R : N/R : N/R : 0 : .01 UF : 1 : SS : FAIL : 100 : 1 : IN.(11)(+) GND(8)(-)
FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE
238 : 6 : N/R : N/R : N/R : 0 : .01 UF : 1 : SS : FAIL : 100 : 1 : IN.(7)(+) GND(8)(-)
REMARK: INPUT PINS 11 AND 15 FAILED AT 200V. FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE
238 : 7 : N/R : N/R : N/R : 0 : .01 UF : 1 : SS : FAIL : 200 : 1 : IN.(7)(+) GND(8)(-)
FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE

74175 FLIP-FLOP, QUAD D

127 : 38 : TEXAS INSTRUMENTS : SN74175 : N/R : 79 : 1000 : 200 PF : 1 : SS : FAIL : 1500 : 1 : INPUTS(+) GROUND(-)
FAILURE CRITERIA: 10UA INPUT LEAKAGE AT THE VOLTAGE PREVIOUSLY MEASURED TO BE IUA
127 : 39 : TEXAS INSTRUMENTS : SN74175 : N/R : 79 : 1000 : 200 PF : 1 : SS : PASS : 1500 : 1 : INPUTS(+) GROUND(-)
FAILURE CRITERIA: 10UA INPUT LEAKAGE AT THE VOLTAGE PREVIOUSLY MEASURED TO BE IUA
127 : 40 : TEXAS INSTRUMENTS : SN74175 : N/R : 79 : 1000 : 200 PF : 10 : SS : FAIL : 1500 : 1 : INPUTS(+) GROUND(-)
FAILURE CRITERIA: 10UA INPUT LEAKAGE AT THE VOLTAGE PREVIOUSLY MEASURED TO BE IUA
127 : 41 : TEXAS INSTRUMENTS : SN74175 : N/R : 79 : 1000 : 200 PF : 10 : SS : PASS : 1500 : 1 : INPUTS(+) GROUND(-)
FAILURE CRITERIA: 10UA INPUT LEAKAGE AT THE VOLTAGE PREVIOUSLY MEASURED TO BE IUA
127 : 42 : NATIONAL SEMI : DM74175 : N/R : 79 : 1000 : 200 PF : 1 : SS : FAIL : 1400 : 1 : INPUTS(+) GROUND(-)
FAILURE CRITERIA: 10UA INPUT LEAKAGE AT THE VOLTAGE PREVIOUSLY MEASURED TO BE IUA
127 : 43 : NATIONAL SEMI : DM74175 : N/R : 79 : 1000 : 200 PF : 1 : SS : PASS : 1500 : 1 : INPUTS(+) GROUND(-)
FAILURE CRITERIA: 10UA INPUT LEAKAGE AT THE VOLTAGE PREVIOUSLY MEASURED TO BE IUA
127 : 44 : NATIONAL SEMI : DM74175 : N/R : 79 : 1000 : 200 PF : 10 : SS : PASS : 1500 : 2 : INPUTS(+) GROUND(-)
FAILURE CRITERIA: 10UA INPUT LEAKAGE AT THE VOLTAGE PREVIOUSLY MEASURED TO BE IUA

74182 SSI/MSI, LOOK-AHEAD CARRY GEN

030 : 573 : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 2500 : 1 : N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

7425 GATE, DUAL 6 INPUT NOR

030 : 514 : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 2500 : 1 : N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

7437 GATE, QUAD 2 INPUT NAND

030 : 515 : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 2500 : 1 : N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%
067 : 2 : N/R : N/R : N/R : 0 : 50 PF : 1 : N/R : FAIL : 750 : 1 : INPUT
068 : 2 : N/R : N/R : N/R : 0 : 100 PF : 1 : N/R : FAIL : 475 : 1 : INPUT
069 : 2 : N/R : N/R : N/R : 0 : 150 PF : 1 : N/R : FAIL : 400 : 1 : INPUT
070 : 2 : N/R : N/R : N/R : 0 : 200 PF : 1 : N/R : FAIL : 300 : 1 : INPUT

[illegible]

: : SEC. : SEQ. :	: : DATE : TEST :	: : RES. :	: : NUMBER : TEST :	: : NUM. :
: : CODE : NUM. :	: : FULL PART NUM. : CODE : DATE :	: : (OHMS) :	: : CAP. : PULSES : TYPE : RESULT : VOLTAGE : DEV. :	: : PIN COMBINATION :
: : MANUFACTURER :				

7438	GATE , QUAD 2 INPUT NAND
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
11	11
12	12
13	13
14	14
15	15
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93	93
94	94
95	95
96	96
97	97
98	98
99	99
100	100

030	: 516 :	N/R :	N/R :	N/R :	100 PF :	1 :	N/R :	FAIL :	2500 :	1 :	N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%											

FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

7465 DECODER , BCD TO DECIMAL

030 : 517 : N/R : N/R : N/R : 100 PF : 1 : N/R : FAIL : 2500 : 1 : N/R

FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

7446 DRIVER, BCD TO 7-SEGMENT

030	:	518	:	N/R	:	N/R	:	1500	:	100 PF	:	1	:	N/R	:	FAIL	:	2500	:	1	:	N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%																						

FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

7490 COUNTER , DECADE

029 : 305 : TEXAS INSTRUMENTS : SN7490 : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 4987 : 1 : N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.

REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.

75107 RECEIVER, DIFFERENTIAL

029 : 306 : TEXAS INSTRUMENTS : SN751071 : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 4907 : 1 : N/R

REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.

REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.

75461 DRIVER - DUAL PERIPHERAL AND

030	:	574	:	N/R	:	N/R	:	N/R	:	1500	:	N/R	:	100	PF	:	1	:	N/R	:	FAIL	:	3000	:	1	:	N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%																											

FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

75462 DRIVER, DUAL PERIPHERAL NAND

030 : 575 : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 3000 : 1 : N/R

FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

75463 DRIVER, DUAL PERIPHERAL OR

030	576	N/R	:	N/R	:	N/R	:	100 PF	:	1	:	N/R	:	3000	:	1	:	N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%																		

FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

75464 DRIVER, DUAL PERIPHERAL NOR

030 : 577 : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 3000 : 1 : N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

93415 STATIC RAM , 1024X1 BIT

027 : 1 : MOTOROLA SEMI : MC493415DC : N/R : N/R : 1500 : 100 PF : 1 : CN : FAIL : 1000 : 1 : N/R
FAILURE CRITERIA: DC PARAMETER OUT OF SPEC

FAILURE CRITERIA: DC PARAMETER OUT OF SPEC

027 : 2 : MOTOROLA SEMI

FAILURE CRITERIA: DC PARAMETER OUT OF SPEC

THE STATE OF TEXAS, COUNTY OF DALLAS, ss. I, _____, a Notary Public in and for said County and State, do hereby certify that the foregoing is a true and correct copy of the original of the same as the same appears from the records of said County.

[illegible][illegible]

93449 SSI/MSI , MULTIPLIER

0229 : 314 : FAIRCHILD SEMI : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 8060 : 1 : N/R

N/R BUFFER/INVERTER, HEX INVERTER

01014	:	2	:	N/R	:	N/R	:	N/R	:	100	:	100	:	PF	:	1	:	SS	:	FAIL	:	1200	:	N/R	:	INPUT
	:	REMARK: 1200 VOLTS IS AN AVE. OF AN UNKNOWN NUMBER OF DEVICES.																								
01017	:	2	:	N/R	:	N/R	:	N/R	:	100	:	250	:	PF	:	1	:	SS	:	FAIL	:	1000	:	N/R	:	INPUT
	:	REMARK: 1000 VOLTS IS AN AVERAGE OF AN UNKNOWN NUMBER OF DEVICES.																								
020	:	2	:	N/R	:	N/R	:	N/R	:	100	:	500	:	PF	:	1	:	SS	:	FAIL	:	700	:	N/R	:	INPUT
	:	REMARK: 700 VOLTS IS AN AVERAGE OF AN UNKNOWN NUMBER OF DEVICES.																								
	:	REMARK: 700 VOLTS IS AN AVERAGE OF AN UNKNOWN NUMBER OF DEVICES.																								

N/R	GATE
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
11	11
12	12
13	13
14	14
15	15
16	16
17	17
18	18
19	19
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87	87
88	88
89	89
90	90
91	91
92	92
93	93
94	94
95	95
96	96
97	97
98	98
99	99
100	100

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0004 : 6 : FAIRCHILD SEMI : N/R : 6947 : NOV 75 : 0 : 125 PF : 1 : SS : FAIL : 4000 : 1 : INPUT
      : GALE
REMARK: INPUTS STRESSED WITH NO PINS GROUNDED. CAPACITANCE OF PACKAGE TO GND. IS 3pF

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TECHNOLOGY: STTL

BASIC PART NUMBER DESCRIPTION

SBC. : SEQ. : : DATE : TEST : RES. : : NUMBER : TEST : : : NUM. :
 CODE : NUM. : MANUFACTURER : FULL PART NUM. : CODE : DATE : (OHMS) : CAP. : PULSES : TYPE : RESULT : VOLTAGE : DEV. : PIN COMBINATION

27S13 PROM

030 : 7 : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1000 : 1 : N/R
 FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

27S19C PROM

030 : 8 : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1000 : 1 : N/R
 FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

27S20 PROM , 1024 BIT

026 : 34 : N/R : N/R : FEB 81 : 100 : 200 PF : 1 : SS : FAIL : 263 : 4 : N/R
 REMARK: VOLTAGE IS AN AVERAGE OF 4 DEVICES FAILURE CRITERIA: CHANGE IN IIL OF +500% AT VIN = .45V

3101 STATIC RAM , 16X4 BIT

029 : 270 : INTEL : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 8060 : 1 : N/R
 REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.

54S00 GATE , QUAD 2 INPUT NAND

030 : 90 : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1000 : 1 : N/R
 FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%
 245 : 8 : N/R : N/R : 7650 : N/R : .1 UP : 1 : SS : FAIL : 36 : 15 : INPUT(+) GND(-)
 REMARK: FAILURE VOLTAGE IS AN AVERAGE OF 15 DEVICES. FAILURE CRITERIA: D.C. PARAMETER OUT OF SPEC.
 026 : 8 : SIGNETICS : N/R : JAN 78 : 100 : 200 PF : 1 : SS : FAIL : 228 : 4 : INPUT(1)(+) GND(7)(-)
 REMARK: VOLTAGE IS AN AVERAGE OF 4 DEVICES FAILURE CRITERIA: 10% PARAMETER CHANGE

54S02 GATE , QUAD 2 INPUT NOR

030 : 91 : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1000 : 1 : N/R
 FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

54S03 GATE , QUAD 2 INPUT NAND

030 : 92 : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1000 : 1 : N/R
 FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

54S04 1/PFEB/INVERTER , HEX INVERTER

030 : 93 : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1000 : 1 : N/R
 FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%
 288 : 1 : TEXAS INSTRUMENTS : SN54S04 : N/R : N/R : 1500 : 200 PF : 200 : GN : PASS : 600 : 1 : VCC(14)(+) IN-(1)(-)
 FAILURE CRITERIA: I_{IH}, V_F, OR V_R OUT OF SPEC.
 297 : 8 : TEXAS INSTRUMENTS : SN54S04 : N/R : N/R : 1500 : 100 PF : 200 : GN : PASS : 800 : 1 : VCC(14)(+) IN-(1)(-)
 FAILURE CRITERIA: I_{IH}, V_F, OR V_R OUT OF SPEC.
 298 : 1 : TEXAS INSTRUMENTS : SN54S04 : N/R : N/R : 1500 : 200 PF : 1 : GN : PASS : 800 : 1 : VCC(14)(+) IN-(1)(-)
 FAILURE CRITERIA: I_{IH}, V_F, OR V_R OUT OF SPEC.
 314 : 3 : TEXAS INSTRUMENTS : SN54S04 : N/R : N/R : 1500 : 100 PF : 200 : GN : PASS : 900 : 1 : VCC(14)(+) IN-(1)(-)
 FAILURE CRITERIA: I_{IH}, V_F, OR V_R OUT OF SPEC.

TECHNOLOGY: STTL
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

SNC. : SEQ. :	MANUFACTURER :	FULL PART NUM. :	DATE :	TEST :	RES. :	CAP. :	PULSES :	TYPE :	RESULT :	VOLTAGE :	DEV. :	NUM. :	PIN COMBINATION
CODE : NUM. :													
54S04	BUFFER/INVERTER, HEX INVERTER												
319	1 : TEXAS INSTRUMENTS : SN54S04		N/R	N/R	1500	100 PF	200	CN	PASS	975	1	1	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: I IH, VF, OR VR OUT OF SPEC.												
320	1 : TEXAS INSTRUMENTS : SN54S04		N/R	N/R	1500	100 PF	1	CN	FAIL	1000	1	1	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: I IH AND VR OUT OF SPEC.												
320	2 : TEXAS INSTRUMENTS : SN54S04		N/R	N/R	1500	100 PF	200	CN	PASS	1000	2	2	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: I IH, VF, OR VR OUT OF SPEC.												
320	3 : TEXAS INSTRUMENTS : SN54S04		N/R	N/R	1500	100 PF	1	CN	FAIL	1000	4	4	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: VR OUT OF SPEC.												
320	4 : TEXAS INSTRUMENTS : SN54S04		N/R	N/R	1500	100 PF	2	CN	FAIL	1000	3	3	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: VR OUT OF SPEC.												
320	5 : TEXAS INSTRUMENTS : SN54S04		N/R	N/R	1500	100 PF	9	CN	FAIL	1000	1	1	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: VR OUT OF SPEC.												
320	6 : TEXAS INSTRUMENTS : SN54S04		N/R	N/R	1500	100 PF	30	CN	FAIL	1000	1	1	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: VR OUT OF SPEC.												
320	7 : TEXAS INSTRUMENTS : SN54S04		N/R	N/R	1500	100 PF	500	CN	PASS	1000	1	1	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: VR OUT OF SPEC.												
320	8 : TEXAS INSTRUMENTS : SN54S04		N/R	N/R	1500	100 PF	2	CN	FAIL	1000	2	2	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: VR OUT OF SPEC.												
320	9 : TEXAS INSTRUMENTS : SN54S04		N/R	N/R	1500	100 PF	6	CN	FAIL	1000	1	1	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: VR OUT OF SPEC.												
321	2 : TEXAS INSTRUMENTS : SN54S04		N/R	N/R	1500	100 PF	1	CN	FAIL	1000	1	1	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: I IH AND VR OUT OF SPEC.												
322	1 : TEXAS INSTRUMENTS : SN54S04		N/R	N/R	1500	100 PF	2	CN	FAIL	1100	1	1	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: I IH AND VR OUT OF SPEC.												
322	2 : TEXAS INSTRUMENTS : SN54S04		N/R	N/R	1500	100 PF	2	CN	FAIL	1100	2	2	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: VR OUT OF SPEC.												
322	3 : TEXAS INSTRUMENTS : SN54S04		N/R	N/R	1500	100 PF	2	CN	FAIL	1100	1	1	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: I IH AND VR OUT OF SPEC.												
323	1 : TEXAS INSTRUMENTS : SN54S04		N/R	N/R	1500	100 PF	1	CN	FAIL	1125	4	4	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: VR OUT OF SPEC.												
323	2 : TEXAS INSTRUMENTS : SN54S04		N/R	N/R	1500	100 PF	2	CN	FAIL	1125	2	2	VCC(1444)(+) IN.(1)(-)
	FAILURE CRITERIA: VR OUT OF SPEC.												
323	3 : TEXAS INSTRUMENTS : SN54S04		N/R	N/R	1500	100 PF	2	CN	FAIL	1125	2	2	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: I IH AND VR OUT OF SPEC.												
323	4 : TEXAS INSTRUMENTS : SN54S04		N/R	N/R	1500	100 PF	3	CN	FAIL	1125	1	1	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: VR OUT OF SPEC.												
323	5 : TEXAS INSTRUMENTS : SN54S04		N/R	N/R	1500	100 PF	40	CN	FAIL	1125	1	1	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: VR OUT OF SPEC.												
324	1 : TEXAS INSTRUMENTS : SN54S04		N/R	N/R	1500	100 PF	1	CN	FAIL	1150	1	1	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: VR OUT OF SPEC.												
325	1 : TEXAS INSTRUMENTS : SN54S04		N/R	N/R	1500	100 PF	1	CN	FAIL	1200	2	2	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: VR OUT OF SPEC.												
325	2 : TEXAS INSTRUMENTS : SN54S04		N/R	N/R	1500	100 PF	1	CN	FAIL	1200	4	4	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: VR OUT OF SPEC.												
325	3 : TEXAS INSTRUMENTS : SN54S04		N/R	N/R	1500	100 PF	1	CN	PASS	1200	6	6	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: I IH, VF, OR VR OUT OF SPEC.												
325	4 : TEXAS INSTRUMENTS : SN54S04		N/R	N/R	1500	100 PF	5	CN	PASS	1200	1	1	VCC(14)(+) IN.(1)(-)
	FAILURE CRITERIA: VR OUT OF SPEC.												

TECHNOLOGY: STTL
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

SEC. : SEQ. :	MANUFACTURER :	FULL PART NUM. :	DATE :	TEST :	RES. :	CAP. :	PULSES :	TEST :	NUMBER :	TEST :	VOLTAGE :	DEV. :	PIN COMBINATION
CODE :	NUM. :		DATE :	TEST :	RES. :	:(OHMS):		TYPE :					
(CONTINUED)													
54504		BUFFER/INVERTER, HEX INVERTER											
325	5	TEXAS INSTRUMENTS : SN54S04	N/R	N/R	1500	100 PF	2	GN	PASS	1200	1	VCC(14)(+)	IN.(1)(-)
		FAILURE CRITERIA: I1H, VF, OR VR OUT OF SPEC.											
325	6	TEXAS INSTRUMENTS : SN54S04	N/R	N/R	1500	100 PF	2	GN	FAIL	1200	2	VCC(14)(+)	IN.(1)(-)
		FAILURE CRITERIA: VR OUT OF SPEC.											
326	2	TEXAS INSTRUMENTS : SN54S04	N/R	N/R	1500	100 PF	1	GN	FAIL	1250	1	VCC(14)(+)	IN.(1)(-)
		FAILURE CRITERIA: I1H AND VR OUT OF SPEC.											
326	3	TEXAS INSTRUMENTS : SN54S04	N/R	N/R	1500	100 PF	1	GN	FAIL	1250	5	VCC(14)(+)	IN.(1)(-)
		FAILURE CRITERIA: VR OUT OF SPEC.											
326	4	TEXAS INSTRUMENTS : SN54S04	N/R	N/R	1500	100 PF	1	GN	FAIL	1250	2	VCC(14)(+)	IN.(1)(-)
		FAILURE CRITERIA: I1H AND VR OUT OF SPEC.											
326	5	TEXAS INSTRUMENTS : SN54S04	N/R	N/R	1500	100 PF	2	GN	FAIL	1250	2	VCC(14)(+)	IN.(1)(-)
		FAILURE CRITERIA: VR OUT OF SPEC.											
326	6	TEXAS INSTRUMENTS : SN54S04	N/R	N/R	1500	100 PF	5	GN	FAIL	1250	1	VCC(14)(+)	IN.(1)(-)
		FAILURE CRITERIA: I1H AND VR OUT OF SPEC.											
327	1	TEXAS INSTRUMENTS : SN54S04	N/R	N/R	1500	100 PF	1	GN	PASS	1300	1	VCC(14)(+)	IN.(1)(-)
		FAILURE CRITERIA: I1H, VF, OR VR OUT OF SPEC.											
328	1	TEXAS INSTRUMENTS : SN54S04	N/R	N/R	1500	100 PF	1	GN	FAIL	1350	2	VCC(14)(+)	IN.(1)(-)
		FAILURE CRITERIA: VR OUT OF SPEC.											
328	2	TEXAS INSTRUMENTS : SN54S04	N/R	N/R	1500	100 PF	1	GN	FAIL	1350	1	VCC(14)(+)	IN.(1)(-)
		FAILURE CRITERIA: I1H AND VR OUT OF SPEC.											
329	1	TEXAS INSTRUMENTS : SN54S04	N/R	N/R	1500	100 PF	2	GN	FAIL	1375	2	VCC(14)(+)	IN.(1)(-)
		FAILURE CRITERIA: VR OUT OF SPEC.											
329	2	TEXAS INSTRUMENTS : SN54S04	N/R	N/R	1500	100 PF	1	GN	FAIL	1375	5	VCC(14)(+)	IN.(1)(-)
		FAILURE CRITERIA: I1H AND VR OUT OF SPEC.											
329	3	TEXAS INSTRUMENTS : SN54S04	N/R	N/R	1500	100 PF	3	GN	FAIL	1375	2	VCC(14)(+)	IN.(1)(-)
		FAILURE CRITERIA: VR OUT OF SPEC.											
329	4	TEXAS INSTRUMENTS : SN54S04	N/R	N/R	1500	100 PF	4	GN	FAIL	1375	1	VCC(14)(+)	IN.(1)(-)
		FAILURE CRITERIA: I1H AND VR OUT OF SPEC.											
329	5	TEXAS INSTRUMENTS : SN54S04	N/R	N/R	1500	100 PF	1	GN	FAIL	1375	1	VCC(14)(+)	IN.(1)(-)
		FAILURE CRITERIA: VR OUT OF SPEC.											
329	6	TEXAS INSTRUMENTS : SN54S04	N/R	N/R	1500	100 PF	1	GN	FAIL	1375	4	VCC(14)(+)	IN.(1)(-)
		FAILURE CRITERIA: I1H AND VR OUT OF SPEC.											
329	7	TEXAS INSTRUMENTS : SN54S04	N/R	N/R	1500	100 PF	1	GN	PASS	1375	2	VCC(14)(+)	IN.(1)(-)
		FAILURE CRITERIA: I1H, VF, OR VR OUT OF SPEC.											
330	3	TEXAS INSTRUMENTS : SN54S04	N/R	N/R	1500	100 PF	1	GN	PASS	1500	2	VCC(14)(+)	IN.(1)(-)
		FAILURE CRITERIA: I1H, VF, OR VR OUT OF SPEC.											
330	4	TEXAS INSTRUMENTS : SN54S04	N/R	N/R	1500	100 PF	1	GN	FAIL	1500	7	VCC(14)(+)	IN.(1)(-)
		FAILURE CRITERIA: VR OUT OF SPEC.											
330	5	TEXAS INSTRUMENTS : SN54S04	N/R	N/R	1500	100 PF	2	GN	FAIL	1500	1	VCC(14)(+)	IN.(1)(-)
		FAILURE CRITERIA: VR OUT OF SPEC.											
330	6	TEXAS INSTRUMENTS : SN54S04	N/R	N/R	1500	100 PF	3	GN	FAIL	1500	1	VCC(14)(+)	IN.(1)(-)
		FAILURE CRITERIA: VR OUT OF SPEC.											
330	7	TEXAS INSTRUMENTS : SN54S04	N/R	N/R	1500	100 PF	3	GN	FAIL	1500	1	VCC(14)(+)	IN.(1)(-)
		FAILURE CRITERIA: I1H AND VR OUT OF SPEC.											
331	2	TEXAS INSTRUMENTS : SN54S04	N/R	N/R	1500	200 PF	1	GN	FAIL	1500	1	VCC(14)(+)	IN.(1)(-)
		FAILURE CRITERIA: I1H AND VR OUT OF SPEC.											
346	3	TEXAS INSTRUMENTS : SN54S04	N/R	N/R	1500	100 PF	1	GN	FAIL	2000	1	VCC(14)(+)	IN.(1)(-)
		FAILURE CRITERIA: I1H AND VR OUT OF SPEC.											

TECHNOLOGY: STTL
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

SEC.: SEQ.: : DATE : TEST : RES.: : NUMBER : TEST : : NUM.:
CODE : NUM.: MANUFACTURER : FULL PART NUM. : CODE : DATE : (OHMS): CAP. : PULSES : TYPE : RESULT: VOLTAGE: DEV.: PIN COMBINATION

54S04 BUFFER/INVERTER, HEX INVERTER

(CONTINUED)

347 : 2 : TEXAS INSTRUMENTS : SN54S04 : N/R : N/R : 1500 : 200 PF : 1 : GN : FAIL : 2000 : 1 : VCC(14)(+) I.M.(1)(-) :
FAILURE CRITERIA: IIH AND VR OUT OF SPEC.

54S05 BUFFER/INVERTER, HEX INVERTER

030 : 94 : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1000 : 1 : N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

54S08 GATE, QUAD 2 INPUT AND

030 : 95 : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1000 : 1 : N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

54S10 GATE, TRIPLE 3 INPUT NAND

030 : 96 : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1000 : 1 : N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

004 : 2 : TEXAS INSTRUMENTS : N/R : 7433 : NOV 75 : 0 : 125 PF : 1 : SS : FAIL : 600 : 1 : INPUT
REMARK: INPUTS STRESSED WITH NO PINS GROUNDED. CAPACITANCE OF PACKAGE TO GND. IS 290PF

004 : 3 : TEXAS INSTRUMENTS : N/R : 7443 : NOV 75 : 0 : 125 PF : 1 : SS : FAIL : 1700 : 1 : INPUT
REMARK: INPUTS STRESSED WITH NO PINS GROUNDED. CAPACITANCE OF PACKAGE TO GND. IS 6.3PF

004 : 4 : TEXAS INSTRUMENTS : N/R : 7443 : NOV 75 : 0 : 125 PF : 1 : SS : FAIL : 2200 : 1 : INPUT
REMARK: INPUTS STRESSED WITH NO PINS GROUNDED. CAPACITANCE OF PACKAGE TO GND. IS 3PF

54S11 GATE, TRIPLE 3 INPUT AND

030 : 97 : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1000 : 1 : N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

54S12 FLIP-FLOP, DUAL JK

030 : 106 : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1000 : 1 : N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

54S13 GATE, 13 INPUT NAND

030 : 107 : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1000 : 1 : N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

54S135 GATE, QUAD 2 INPUT OR/NOR

030 : 108 : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1000 : 1 : N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

54S138 DECODER, DUAL 2 TO 4 LINE

030 : 109 : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1000 : 1 : N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

[illegible]

54SI38 DECODER - DUAL 2 TO 4 LINE

54S140 GATE . DUAL 4 INPUT NAND

54S151 MULTIPLEXER, 8 INPUT

54S153 MULTIPLEXER . DUAL 4 INPUT

54S157 MULTIPLEXER - QUAD 2 INPCT

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128 : 16 : SIGNETICS : N/R : N/R : MAR 81 : 1000 : 200 PF : 5 : SS : FAIL : 888 : 1 : INPUTS(+) : GROUND(-)
REMARK: VOLTAGE IS AN AVERAGE OF ALL INPUTS. PINS 11,14 MOST SUSCEPTIBLE (AVERAGE=960V)

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1228 : 16 : SIGMETICS : N/R : N/R : MAR 81 : 1000 : 200 PF : 5 : SS : FAIL : 988 : 1 : 1NPTS(+) GROUND(-)
REMARK: VOLTAGE IS AN AVERAGE OF ALL INPUTS. PINS 11,14 MOST SUSCEPTIBLE (AVERAGE=960V)
REMARK: MEASUREMENTS OBTAINED ON THE FIRST OF GROUNDING - 1000V

030 : 115 :	N/R	:	N/R	:	N/R	:	N/R	:	100 PP	:	1	:	N/R	:	FAIL	:	1000	:	1	:	N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%																					

FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

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TECHNOLOGY: STTL
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION	SEC. : SEQ. :	MANUFACTURER	DATE : TEST : RES. :	NUMBER : TEST :	MJM. :	PLN COMBINATION
030 : 118 :	N/R			DATE : CODE : DATE : (OHMS) :	CAP. : PULSES : TYPE : RESULT :	VOLTAGE : DEV. :	
54S175	FLIP-FLOP , QUAD D						
030 : 118 :	N/R			N/R : N/R : 1500 : 100 PF :	1 : N/R : FAIL :	1000 : 1 :	N/R
54S181	SSI/MSI , ADDER ALU						
029 : 292 :	TEXAS INSTRUMENTS			N/R : N/R : 1500 : 100 PF :	1 : N/R : FAIL :	1106 : 1 :	N/R
030 : 119 :	N/R			N/R : N/R : 1500 : 100 PF :	1 : N/R : FAIL :	1000 : 1 :	N/R
54S189	STATIC RAM , 16K4 BIT						
030 : 121 :	N/R			N/R : N/R : 1500 : 100 PF :	1 : N/R : FAIL :	1000 : 1 :	N/R
54S200	RAM , 256K1 BIT TRI STATE						
030 : 98 :	N/R			N/R : N/R : 1500 : 100 PF :	1 : N/R : FAIL :	1000 : 1 :	N/R
030 : 122 :	N/R			N/R : N/R : 1500 : 100 PF :	1 : N/R : FAIL :	1000 : 1 :	N/R
54S222	GATE , DUAL 4 INPUT NAND						
030 : 99 :	N/R			N/R : N/R : 1500 : 100 PF :	1 : N/R : FAIL :	1000 : 1 :	N/R
54S251	MULTIPLIER , 8 INPUT						
030 : 123 :	N/R			N/R : N/R : 1500 : 100 PF :	1 : N/R : FAIL :	1000 : 1 :	N/R
54S257	MULTIPLIER , QUAD 2 INPUT						
030 : 124 :	N/R			N/R : N/R : 1500 : 100 PF :	1 : N/R : FAIL :	1000 : 1 :	N/R
54S258	MULTIPLIER , QUAD 2 INPUT						
030 : 125 :	N/R			N/R : N/R : 1500 : 100 PF :	1 : N/R : FAIL :	1000 : 1 :	N/R
54S287	PHOM , 256K4 BIT						
030 : 126 :	N/R			N/R : N/R : 1500 : 100 PF :	1 : N/R : FAIL :	1000 : 1 :	N/R

TECHNOLOGY: STTL
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION	SER. : SEQ. : CODE : NUM. :	MANUFACTURER :	DATE : TEST : RES. :	FULL PART NUM. : CODE : DATE : (OIMS) :	CAP. : PULSES : TYPE : RESULT : VOLTAGE : DEV. :	NUM. : PIN COMBINATION
54S288	PROM , 32X8 BIT						
030	127 : N/R						
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%						
54S30	GATE , 8 INPUT NAND						
030	100 : N/R						
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%						
54S32	GATE , QUAD 2 INPUT OR						
030	101 : N/R						
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%						
54S471	PROM , 256X8 BIT						
030	128 : N/R						
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%						
54S472	PROM , 512X8 BIT						
030	129 : N/R						
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%						
54S51	GATE , DUAL 2 INPUT AND/OR						
030	102 : N/R						
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%						
54S573	PROM , 1024X4 BIT						
030	130 : N/R						
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%						
54S74	FLIP-FLOP , DUAL D						
030	103 : N/R						
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%						
54S85	SSI/MSI , 4 BIT MAG.COMPARATOR						
030	104 : N/R						
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%						
54S86	GATE , QUAD 2 IN. EXCL. OR						
030	105 : N/R						
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%						

TECHNOLOGY: STTL
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION	SERIAL NO.	SEQ. NO.	DATE	TEST	RES.	CAP.	PULSES	TYPE	RESULT	VOLTAGE	DEV.	PIN COMBINATION
74500	GATE, QUAD 2 INPUT NAND												
029	300 : TEXAS INSTRUMENTS : SN74S00			N/R	N/R	1500	100 PF	1	N/R	FAIL	2144	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
030	210 : N/R			N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
067	1 : N/R			N/R	N/R	0	50 PF	1	N/R	FAIL	375	1	INPUT
068	1 : N/R			N/R	N/R	0	100 PF	1	N/R	FAIL	250	1	INPUT
069	1 : N/R			N/R	N/R	0	150 PF	1	N/R	FAIL	200	1	INPUT
070	1 : N/R			N/R	N/R	0	200 PF	1	N/R	FAIL	175	1	INPUT
384	11 : N/R			N/R	N/R	1000	200 PF	1	SS	FAIL	800	1	EACH PIN(+)
	REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 1100V.												
	FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.												
384	13 : N/R			N/R	N/R	1000	200 PF	1	SS	FAIL	650	1	EACH PIN(+)
	REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 850V.												
	FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.												
384	16 : N/R			N/R	N/R	1000	200 PF	1	SS	FAIL	850	1	EACH PIN(+)
	REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 1025V.												
	FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.												
384	20 : N/R			N/R	N/R	1000	200 PF	1	SS	FAIL	650	1	EACH PIN(+)
	REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 725V.												
	FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.												
003	7 : TEXAS INSTRUMENTS			N/R	N/R	NOV 75	0	100 PF	1	SS	FAIL	250	1 : INPUT(+)
028	5 : N/R			N/R	N/R	1500	117 PF	30	SS	FAIL	1000	5	PR. SUPPLY(-)
	FAILURE CRITERIA: IDH=16MA												N/R
74502	GATE, QUAD 2 INPUT NOR												
030	211 : N/R			N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
74503	GATE, QUAD 2 INPUT NAND												
030	212 : N/R			N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
74504	BUFFER/INVERTER, HEX INVERTER												
030	213 : N/R			N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
74505	BUFFER/INVERTER, HEX INVERTER												
030	214 : N/R			N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
74508	GATE, QUAD 2 INPUT AND												
030	215 : N/R			N/R	N/R	1500	100 PF	1	N/R	FAIL	1000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												

BASIC PART NUMBER	DESCRIPTION
SBC.: SEQ.:	: DATE : TEST :
CODE : NUM.:	: FULL PART NUM. : CAP. : PULSES : TYPE : RESULT: VOLTAGE: DEV. : PIN COMBINATION
GATE , TRIPLE 3 INPUT NAND	
030 : 216 :	N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1000 : 1 :
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%	
GATE , TRIPLE 3 INPUT AND	
030 : 217 :	N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1000 : 1 :
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%	
FLIP-FLOP , DUAL JK	
030 : 226 :	N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1000 : 1 :
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%	
GATE , 13 INPUT NAND	
030 : 227 :	N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1000 : 1 :
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%	
GATE , QUAD 2 INPUT OR/NOR	
030 : 228 :	N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1000 : 1 :
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%	
GATE , DUAL 4 INPUT NAND	
030 : 229 :	N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1000 : 1 :
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%	
MULTIPLIER , 8 INPUT	
030 : 230 :	N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1000 : 1 :
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%	
MULTIPLIER , DUAL 4 INPUT	
030 : 712 :	N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1000 : 1 :
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%	
MULTIPLIER , QUAD 2 INPUT	
030 : 231 :	N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1000 : 1 :
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%	
COUNTER , DECADE SYNCHRONOUS	
030 : 232 :	N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1000 : 1 :
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%	

BASIC PART NUMBER	DESCRIPTION	SEC. : SEQ. : CODE : NUM. :	MANUFACTURER	FULL PART NUM. :	DATE : TEST : RES. :	DATE : CODE :	DATE : TEST : RES. :	NUMBER : TEST : CAP. : PULSES : TYPE : RESULT : VOLTAGE : DEV. :	NUM. : PIN COMBINATION
74S161	COUNTER , BINARY, SYNCHRONOUS								
030 : 233 :	N/R	N/R	N/R	N/R	1500 : 100 PF :	1 :	N/R : FAIL :	1000 : 1 :	N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%									
74S174	FLIP-FLOP , HEX D								
030 : 234 :	N/R	N/R	N/R	N/R	1500 : 100 PF :	1 :	N/R : FAIL :	1000 : 1 :	N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%									
74S175	FLIP-FLOP , QUAD D								
030 : 235 :	N/R	N/R	N/R	N/R	1500 : 100 PF :	1 :	N/R : FAIL :	1000 : 1 :	N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%									
74S181	SSI/MSI , ARITH. LOGIC UNIT								
030 : 236 :	N/R	N/R	N/R	N/R	1500 : 100 PF :	1 :	N/R : FAIL :	1000 : 1 :	N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%									
74S182	SSI/MSI , LOOK AHEAD CARRY GEN								
030 : 237 :	N/R	N/R	N/R	N/R	1500 : 100 PF :	1 :	N/R : FAIL :	1000 : 1 :	N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%									
74S189	STATIC RAM , 16X4 BIT								
030 : 238 :	N/R	N/R	N/R	N/R	1500 : 100 PF :	1 :	N/R : FAIL :	1000 : 1 :	N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%									
74S200	GATE , DUAL 4 INPUT NAND								
030 : 218 :	N/R	N/R	N/R	N/R	1500 : 100 PF :	1 :	N/R : FAIL :	1000 : 1 :	N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%									
74S200	RAM , 256X1 BIT TRI STATE								
030 : 239 :	N/R	N/R	N/R	N/R	1500 : 100 PF :	1 :	N/R : FAIL :	1000 : 1 :	N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%									
74S222	GATE , DUAL 4 INPUT NAND								
030 : 219 :	N/R	N/R	N/R	N/R	1500 : 100 PF :	1 :	N/R : FAIL :	1000 : 1 :	N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%									
74S251	MULTIPLEXER , 8 INPUT								
030 : 240 :	N/R	N/R	N/R	N/R	1500 : 100 PF :	1 :	N/R : FAIL :	1000 : 1 :	N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%									

TECHNOLOGY: STILL
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION	SERIAL : SEQ. :	MANUFACTURER :	DATE :	TEST :	NUMBER :	TEST :	VOLTAZ :	DEV. :	PIN COMBINATION
		CODE : NUM. :	FULL PART NUM. :	CODE :	DATE :	CAP. :	PULSES :	TYPE :	RESULT :	
74S257	MULTIPLEXER , QUAD 2 INPUT									
030	: 241 : N/R :	N/R :	N/R :	1500 :	100 PF :	1 :	N/R :	FAIL :	1000 :	1 :
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%									N/R
74S258	MULTIPLEXER , QUAD 2 INPUT									
030	: 242 : N/R :	N/R :	N/R :	1500 :	100 PF :	1 :	N/R :	FAIL :	1000 :	1 :
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%									N/R
74S30	GATE , 8 INPUT NAND									
030	: 220 : N/R :	N/R :	N/R :	1500 :	100 PF :	1 :	N/R :	FAIL :	1000 :	1 :
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%									N/R
74S32	GATE , QUAD 2 INPUT OR									
030	: 221 : N/R :	N/R :	N/R :	1500 :	100 PF :	1 :	N/R :	FAIL :	1000 :	1 :
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%									N/R
74S472	PROM , 512X8 BIT									
030	: 243 : N/R :	N/R :	74S472C :	N/R :	1500 :	100 PF :	1 :	N/R :	FAIL :	1000 :
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%									N/R
74S51	GATE , DUAL 2 INPUT AND/OR									
030	: 222 : N/R :	N/R :	N/R :	1500 :	100 PF :	1 :	N/R :	FAIL :	1000 :	1 :
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%									N/R
74S74	FLIP-FLOP , DUAL D									
030	: 223 : N/R :	N/R :	N/R :	1500 :	100 PF :	1 :	N/R :	FAIL :	1000 :	1 :
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%									N/R
74S85	SSI/HSI , 4 BIT MAG.COMPARATOR									
030	: 224 : N/R :	N/R :	N/R :	1500 :	100 PF :	1 :	N/R :	FAIL :	1000 :	1 :
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%									N/R
74S86	GATE , QUAD 2 IN. EXCL. OR									
030	: 225 : N/R :	N/R :	N/R :	1500 :	100 PF :	1 :	N/R :	FAIL :	1000 :	1 :
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%									N/R
74S90	PROM , 512X4 BIT									
245	: 12 : N/R :	N/R :	N/R :	7712 :	N/R :	100 :	.1 UF :	1 :	SS :	FAIL :
	REMARK: FAILURE VOLTAGE IS AN AVERAGE OF 15 DEVICES.									83 :
										15 :
										INPUT (+) GND (-)

TECHNOLOGY: STTL
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

SRC. : SEQ. : : DATE : TEST : RES. : : NUMBER : TEST : : NUM. :
CODE : NUM. : MANUFACTURER : FULL PART NUM. : CODE : DATE : (OHMS) : CAP. : PULSES : TYPE : RESULT : VOLTAGE : DEV. : PIN COMBINATION

8726 TRANSCEIVER, 4 BIT PARALLEL

030 : 1 : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1000 : 1 : N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

8726C TRANSCEIVER, 4 BIT PARALLEL

030 : 2 : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1000 : 1 : N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

8726C PROM, 256X8 BIT

030 : 249 : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1000 : 1 : N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

8726C PROM, 32X8 BIT

030 : 250 : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1000 : 1 : N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

8726C PROM, 256X4 BIT

030 : 251 : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1000 : 1 : N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

8726C PROM, 512X4 BIT

030 : 252 : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1000 : 1 : N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

8726C PROM, 1024X4 BIT

030 : 253 : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1000 : 1 : N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

8726C PROM, 512X8 BIT

030 : 254 : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1000 : 1 : N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

8726C PROM, 1024X8 BIT

030 : 255 : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1000 : 1 : N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

8726C PROM, 2048X4 BIT

030 : 256 : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1000 : 1 : N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

[illegible]

82S191 PROM , 2048X8 BIT

FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

030	: 250 :	N/R :	N/R :	100 PF :	1 :	N/R :	1000 :	1 :	N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%									

```

245 : 10 : N/R : N/R : 100 : .1 UF : 1 : SS : FAIL : 31 : 15 : INPUT(+) GND(-)
REMARK: FAILURE VOLTAGE IS AN AVERAGE OF 15 DEVICES. FAILURE CRITERIA: D.C. PARAMETER OUT OF SPEC.

```

```

245 : 11 : N/R : 7211 : N/R : .1 UF : 1 : SS : FAIL : 41 : 15 : INPUT(+) GND(-)
REMARK: FAILURE VOLTAGE IS AN AVERAGE OF 15 DEVICES. FAILURE CRITERIA: D.C. PARAMETER OUT OF SPEC.

```

0209 : 311 : SIGNETICS : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1576 : 1 : N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.

014 : 3 : N/R : N/R : 100 PF : 1 : SS : FAIL : 525 : N/R : INPUT
REMARK: 525 VOLTS IS AN AVERAGE FROM AN UNKNOWN NUMBER OF DEVICES.
FAILURE CRITERIA: GREATER THAN 50MA INPUT LEAKAGE AT 5 VOLTS

020 : 3 : N/R : N/R : 100 : 500 PF : 1 : SS : FAIL : 250 : N/R : INPUT

REMARK: 825 VOLTS IS AN AVERAGE OF AN UNKNOWN NUMBER OF DEVICES. FAILURE CRITERIA: GREATER THAN 50 MA AT 5 VOLTS.

025	:	1	:	W/R	:	N/R	:	N/R	:	470	:	500 PF	:	1	:	SS	:	FAIL	:	410	:	N/R	:
REPAIR: 490 VOLTS IS AN AVERAGE OF AN UNKNOWN NUMBER OF DEVICES.																							
FAILURE CRITERIA: GREATER THAN 50 MA AT 5 VOLTS.																							

REMARK: 410 VOLTS IS AN AVERAGE OF AN UNKNOWN NUMBER OF DEVICES. FAILURE CRITERIA: GREATER THAN 5 MA AT 5 VOLTS.

BASIC PART NUMBER	DESCRIPTION	SEC. : SEQ. : CODE : MUM. :	MANUFACTURER	PULL PART NUM. :	DATE : TEST : RES. :	NUMBER : TEST :	MUM. : PLN COMBINATION
					CAP. : PULSES : TYPE : RESULT : VOLTAGE : DEV. :		
26L531	DRIVER, DIFFERENTIAL LINE						
030	4 : N/R	N/R	N/R	N/R	1500 : 100 PF : 1 : N/R : FAIL : 1500 : 1 : N/R		
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%						
26L532	RECEIVER, DIFFERENTIAL LINE						
030	5 : N/R	N/R	N/R	N/R	1500 : 100 PF : 1 : N/R : FAIL : 1500 : 1 : N/R		
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%						
2901	MICROPROCESSOR, CPU, 4 BIT SLICE						
030	360 : N/R	2901A	N/R	N/R	1500 : 100 PF : 1 : N/R : FAIL : 1500 : 1 : N/R		
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%						
383	11 : ADVANCED MICRO DEVICES : AN2901	N/R	N/R	N/R	1500 : 100 PF : 1 : SS : FAIL : 774 : 1 : CP(+) APTT(-)		
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL. FAILURE CRITERIA: DEGRADATION OF V-I CURVE OR FUNCTIONAL FAILURE.						
383	12 : ADVANCED MICRO DEVICES : AN2901	N/R	N/R	N/R	1500 : 100 PF : 1 : SS : FAIL : 183 : 1 : P-O(+) APTT(-)		
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL. FAILURE CRITERIA: DEGRADATION OF V-I CURVE OR FUNCTIONAL FAILURE.						
383	13 : ADVANCED MICRO DEVICES : AN2901	N/R	N/R	N/R	1500 : 100 PF : 1 : SS : FAIL : 57286 : 1 : VCC(+) APTT(-)		
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL. FAILURE CRITERIA: DEGRADATION OF V-I CURVE OR FUNCTIONAL FAILURE.						
2909	MICROPROCESSOR, MICROPROGRAM SEQ.						
030	361 : N/R	N/R	N/R	N/R	1500 : 100 PF : 1 : N/R : FAIL : 1500 : 1 : N/R		
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%						
2910	MICROPROCESSOR, MICROPROGRAM CONTROL						
030	362 : N/R	N/R	N/R	N/R	1500 : 100 PF : 1 : N/R : FAIL : 1500 : 1 : N/R		
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%						
2930	MICROPROCESSOR, PROGRAM CONTROL UNIT						
030	713 : N/R	N/R	N/R	N/R	1500 : 100 PF : 1 : N/R : FAIL : 1500 : 1 : N/R		
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%						
54L500	GATE, QUAD 2 INPUT NAND						
030	9 : N/R	N/R	N/R	N/R	1500 : 100 PF : 1 : N/R : FAIL : 1500 : 1 : N/R		
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%						
245	13 : N/R	54LS00A	N/R	7735 : N/R	100 : .1 UF : 1 : SS : FAIL : 85 : 15 : INPUT(+) GND(-)		
	REMARK: FAILURE VOLTAGE IS AN AVERAGE OF 15 DEVICES. FAILURE CRITERIA: D.C. PARAMETER OUT OF SPEC.						
245	14 : N/R	54LS00B	N/R	716 : N/R	100 : .1 UF : 1 : SS : FAIL : 83 : 15 : INPUT(+) GND(-)		
	REMARK: FAILURE VOLTAGE IS AN AVERAGE OF 15 DEVICES. FAILURE CRITERIA: D.C. PARAMETER OUT OF SPEC.						
245	15 : N/R	54LS00C1	N/R	720 : N/R	100 : .1 UF : 1 : SS : FAIL : 80 : 15 : INPUT(+) GND(-)		
	REMARK: FAILURE VOLTAGE IS AN AVERAGE OF 15 DEVICES. FAILURE CRITERIA: D.C. PARAMETER OUT OF SPEC.						
245	16 : N/R	54LS00C2	N/R	720 : N/R	100 : .1 UF : 1 : SS : FAIL : 80 : 15 : INPUT(+) GND(-)		
	REMARK: FAILURE VOLTAGE IS AN AVERAGE OF 15 DEVICES. FAILURE CRITERIA: D.C. PARAMETER OUT OF SPEC.						
183	17 : NATIONAL SEMI	N/R	N/R	N/R	1500 : 100 PF : 1 : SS : FAIL : 8132 : 1 : IN.(+) APTT(-)		
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL. FAILURE CRITERIA: DEGRADATION OF V-I CURVE OR FUNCTIONAL FAILURE.						

[illegible]

(CONTINUED)

54LS02 **GATE , QUAD 2 INPUT NOR**

FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

54LS05 BUFFER/INVERTER, HEX INVERTER

S4LS06 GATE . QUAD 2 INPUT AND

54LS09 GATE, QUAD 2 INPUT AND

FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

TECHNOLOGY: LSTTL
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION	SER. : SEQ. : CODE : NUM. :	MANUFACTURER	DATE : TEST : RES. : : CODE : DATE : (OHMS) :	FULL PART NUM. :	CAP. : PULSES : TYPE : RESULT : : : : : VOLTAGE : DEV. :	NUM. : : : : : PIN COMBINATION
54LS10	GATE, TRIPLE 3 INPUT NAND						
030	16 : N/R : N/R : N/R : N/R : 100 PF : 1 : N/R : FAIL : 1500 : 1 : N/R						
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%						
54LS107	FLIP-FLOP, DUAL JK MASTER SLAVE						
030	37 : N/R : N/R : N/R : N/R : 100 PF : 1 : N/R : FAIL : 1500 : 1 : N/R						
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%						
54LS109	FLIP-FLOP, DUAL JK						
030	38 : N/R : N/R : N/R : N/R : 100 PF : 1 : N/R : FAIL : 1500 : 1 : N/R						
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%						
54LS111	GATE, TRIPLE 3 INPUT AND						
030	17 : N/R : N/R : N/R : N/R : 100 PF : 1 : N/R : FAIL : 1500 : 1 : N/R						
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%						
54LS112	FLIP-FLOP, DUAL JK						
030	39 : N/R : N/R : N/R : N/R : 100 PF : 1 : N/R : FAIL : 1500 : 1 : N/R						
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%						
54LS12	GATE, TRIPLE 3 INPUT NAND						
030	18 : N/R : N/R : N/R : N/R : 100 PF : 1 : N/R : FAIL : 1500 : 1 : N/R						
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%						
54LS123	MULTIVIBRATOR, DUAL RETRIGGERABLE						
030	40 : N/R : N/R : N/R : N/R : 100 PF : 1 : N/R : FAIL : 1500 : 1 : N/R						
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%						
54LS125	BUFFER/INVERTER, QUAD GATED						
030	41 : N/R : N/R : N/R : N/R : 100 PF : 1 : N/R : FAIL : 1500 : 1 : N/R						
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%						
54LS126	BUFFER/INVERTER, QUAD GATED						
030	42 : N/R : N/R : N/R : N/R : 100 PF : 1 : N/R : FAIL : 1500 : 1 : N/R						
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%						
54LS138	DECODER, DUAL 2 TO 4 LINE						
030	43 : N/R : N/R : N/R : N/R : 100 PF : 1 : N/R : FAIL : 1500 : 1 : N/R						
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%						

[illegible]

SEC. :	SEQ. :	DATE :	TEST :	RES. :	NUMBER :	TEST :	NUM. :
CODE :	NUM. :	FULL PART :	NUM. :	CODE :	DATE :	TYPE :	VOLTAGE :
		MANUFACTURER :		(OHMS) :	CAP. :	PULSES :	DEV. :
						RESULT :	PIN COMBINATION :

541S139 DECODER - DUAL 2 TO 4 LINE

030	44	N/R	N/R	N/R	100 PF	1	N/R	FAIL	1500	1	N/R
-----	----	-----	-----	-----	--------	---	-----	------	------	---	-----

FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

54LS14 SSI/MSI . HEX SCHMITT TRIGGER

030	:	19	:	N/R	:	N/R	:	1500	:	1	:	N/R
030	:	19	:	N/R	:	N/R	:	1500	:	1	:	N/R

TABLE 1. FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

54LS148 ENCODER - 8-INPUT PRIORITY

N/R	:	N/R	:	N/R	:	N/R
: 65 :	:	: 1500 :	:	: 100 PF :	:	: 1 :
: 030 :	:	: 1500 :	:	: 100 PF :	:	: 1 :

4.5 : N/A ; N/A : N/A

SALSIS GATE TRIPLE 3 INPIT AND

N/R	:	20 :	N/R	:	1500 :	100 PF :	1 :	N/R	:	1500 :	1 :	N/R
030	:	20 :	N/R	:	1500 :	100 PF :	1 :	N/R	:	1500 :	1 :	N/R

[illegible]

54LS151 MULTIPLEXER - 8 INPUT

	N/R	:	: 46 :	N/R	:	: N/R : N/R	:	: 100 PF :	N/R	:	: 1500 :	N/R	:	: FAIL :	N/R	:	: 1500 :	N/R	:	: 1 :	N/R	:	: 1500 :	N/R						
030	:	:	46	:	:	N/R	:	:	100 PF	:	:	1500	:	:	FAIL	:	:	1500	:	:	1	:	:	1500	:	:	1	:	:	N/R

40 : N/R : N/R : N/R

128 : 1 : MOTOROLA SEMI : SN54LS151 : N/R : MAR 81 : 1000 : 200 PF : 5 : SS : FATH : 1117 : 1 : INPITS(4) GROUND(-)
FAILURE CRITERIA: FAILURE CHANGE OF GREATER THAN 10%

1 : FUJIKURA SEHI : SN3475151 : N/K : MAX 81 : 1000 : 200 PF :
REMARK: VOLTAGE IS AN AVERAGE OF ALL INPUTS. PIN 15 MOST SUSCEPTIBLE (AVERAGE=960V)

REMARK: VOLTAGE IS AN AVERAGE OF ALL INPUTS. PIN 13 MOST SUSCEPTIBLE (AVERAGE 980W)

FAILURE CRITERIA: SIGNIFICANT CHANGE IN THE +INPUT-GROUND V-I CURVE.

2 : MONTHS14 SENT : SN\$41\$1\$1 : N/8 : VAR 81 : 1000

```

127 : Z : MOTOROLA SENT      : SN54LS151      : N/A : MAX 81 : 1000 : 200 PF : 1133 : SS : FAIL : 1 : INPUTS(+) GROUND(-)
REMARK: VOLTAGE IS AN AVERAGE OF ALL INPUTS. PIN 15 MOST SUSCEPTIBLE (VOLTAGE=96(V))

```

REMARK: VOLTAGE IS AN AVERAGE OF ALL INPUTS. PIN 13 MOST SUSCEPTIBLE (AVERAGE=960V).
FAILURE CRITERIA: SIGNIFICANT CHANGE IN THE +INPUT-GROUND V-I CURVE.

128	:	3	:	MOTRONA SENT	:	SNS4S151	:	N/R : MAR 81	:	1000 :	200 PF :	5	:	SS	:	PAT1	:	1162	:	1	:	IMBITE(+) GROUND(-)
-----	---	---	---	--------------	---	----------	---	--------------	---	--------	----------	---	---	----	---	------	---	------	---	---	---	---------------------

3 : MOTOROLA SEMI : SN54LS151 : N/R : MAX 81 : 1000 : 200 PF :
REMARK: VOLTAGE IS AN AVERAGE OF ALL INPUTS. PIN 15 MOST SUSCEPTIBLE (AVERAGE=9.60V)

REMARK: VOLTAGE IS AN AVERAGE OF ALL INPUTS. PIN 15 MOST SUSCEPTIBLE (AVERAGE 500W)
FAILURE CRITERIA: SIGNIFICANT CHANGE IN THE +INPUT-GROUND V-I CURVE.

4 : MOTOROLA SEMI : SN54LS151 : N/R : MAR 81 : 1000 : 200 PF : 5

```

120 : 4 : HOLDOVER SEIZ : SUCCESSFUL : N/A : REAR CL : 1000 : 200 IF : 3 : 33 : FAIL : 1 : INPUTS(V/ GROUND(
REMARK: VOLTAGE IS AN AVERAGE OF ALL INPUTS. PINS 1,2,15 MOST SUSCEPTIBLE (AVERAGE=94.0V)

```

FAILURE CRITERIA: SIGNIFICANT CHANGE IN THE +INPUT-GROUND V-I CURVE.

```

120 : 5 : MOTOROLA SEMI : SN54LS151 : N/R : MAR 81 : 1000 : 200 PF : 5 : SS : FAIL : 1045 : 1 : INPUTS(+) GROUND(-)

```

REMARK: VOLTAGE IS AN AVERAGE OF ALL INPUTS. PINS 1,2,15 MOST SUSCEPTIBLE (AVERAGE=940V)

FAILURE CRITERIA: SIGNIFICANT CHANGE IN THE +INPUT-GROUND V-I CURVE.

6 : NATIONAL SEMI : DM54LS151 : N/R : MAR 81 : 1000 : 200 PF : 5

REMARK: VOLTAGE IS AN AVERAGE OF ALL INPUTS. PIN 15 MOST SUSCEPTIBLE (AVERAGE=960V)

FAILURE CRITERIA: SIGNIFICANT CHANGE IN THE +INPUT-GROUND V-I CURVE.

```

128 : 7 : NATIONAL SEMI      : DMSLSLSI  : N/R : MAX 81 : 1000 : 200 PF : 5 : SS : FAIL : 1033 : 1 : INPUTS(+) GROUND(-)

```

REMARK: VOLTAGE IS AN AVERAGE OF ALL INPUTS. PIN 15 MOST SUSCEPTIBLE (AVERAGE=960V)

FAILURE CRITERIA: SIGNIFICANT CHANGE IN THE +INPUT-GROUND V-I CURVE.

8 : NATIONAL SEMI : DM54LS151 : N/R : MAR 81 : 1000 : 200 PF : 5

REMARK: VOLTAGE IS AN AVERAGE OF ALL INPUTS. PIN 15 MOST SUSCEPTIBLE (AVERAGE=960V)

FAILURE CRITERIA: SIGNIFICANT CHANGE IN THE +INPUT-GROUND V-I CURVE.

```

128 : 9 : NATIONAL SENI : DHS4LS151 : N/R : MAR 81 : 1000 : 200 PF : 5 : SS : FAIL : 1042 : 1 : INPUTS(+) GROUND(-)

```

REMARK: VOLTAGE IS AN AVERAGE OF ALL INPUTS. PIN 15 MOST SUSCEPTIBLE (AVERAGE=960V)

FAILURE CRITERIA: SIGNIFICANT CHANGE IN THE +INPUT-GROUND V-I CURVE.

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[illegible]

SEC. :	SEQ. :	DATE :	TEST :	RES. :	NUMBER :	TEST :	NUM. :
CODE :	MIN. :	FULL PART NUM. :	CODE :	DATE :	PULSES :	TYPE :	VOLTADE :
MANUFACTURER				PIN COMBINATION			

\$4LS151 MULTIPLEXER , 8 INPUT

```

120 : 10 : NATIONAL SEMI      : DM54LS151      : N/A : MAR 81 : 1000 : 200 PF : 5 : SS : FAIL : 1 : 1075 : 1 : INPUTS(+) GROUND(-)
REMARK: VOLTAGE IS AN AVERAGE OF ALL INPUTS. PIN 15 MOST SUSCEPTIBLE (AVERAGE=960V)

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REMARK: VOLTAGE IS AN AVERAGE OF ALL INPUTS. PIN 15 MOST SUSCEPTIBLE (AVERAGE=960V)

FAILURE CRITERIA: SIGNIFICANT CHANGE IN THE +INPUT-GROUND V-I CURVE.

128 : 11 : NATIONAL SENI : DM54LS151 : N/R : MAR 81 : 1000 : 200 PF : 5 : SS : FAIL : 700 : 1 : INPUT(15)(+) GROUND(-)

FAILURE CRITERIA: SIGNIFICANT CHANGE IN THE +INPUT-GROUND V-I CURVE.

```

128 : 12 : CATEGORICAL SEMI                N/R : MAR 81 : 1000 : 200 PF :      5 : SS : FAIL :      3 : INPUT(15)(+) GROUND(-)
          FAILURE CATEGORICAL SEMI          :              :              :              :              :              :              :              :              :
          PARTIAL GROUND (+) ON LINE        :              :              :              :              :              :              :              :
          CHARGE DISCHARGE                  : DM54LS151 :              :              :              :              :              :              :

```

FAILURE CRITERIA: SIGNIFICANT CHANGE IN THE +INPUT-GROUND V-I CURVE.

128 : 13 : NATIONAL SNI : N/R : MAR 81 : 1000 : 200 PF : 5 : SS : FAIL : 1100 : 1 : INPUT(15)(+) GROUND(-)

FAILURE CRITERIA: SIGNIFICANT CHANGE IN THE +I INPUT-GROUND V-I CURVE.

S4LS153 MULTIPLEXER , DUAL 4 INPUT

030	:	47	:	N/R	:	N/R	:	1500	:	1	:	N/R
:	:	N/R	:	N/R	:	N/R	:	100 PF	:	1	:	N/R

FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

```

128 : 14 : SIGNETICS          N/R      : N/R      : MAX 81 : 1000 : 200 PF : 5 : SS : PASS : 1500 : 5 : INPUTS(+) CROUND(-)
FAILURE CRITERIA: PARALLEL CHANGE OF ORIENTATION ABOUT 10%

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REMARK: VOLTAGE IS AN AVERAGE OF ALL INPUTS.
FAILURE CRITERIA: SIGNIFICANT CHANGE IN THE +INPUT-GROUND V-I CURVE.

```

245 : 17 : N/R : N/R : 100 : .1 UF : 1 : SS : FAIL : 95 : 15 : INPUT(+) GND(-)

```

REMARK: FAILURE VOLTAGE IS AN AVERAGE OF 15 DEVICES. FAILURE CRITERIA: D.C. PARAMETER OUT OF SPEC.

54LS154 DECODER, 4 TO 16 LINE

030 : 48 :	N/R	:	N/R	:	1500	:	100 PF	:	1	:	1500	:	1	:	N/R
030 : 48 :	N/R	:	N/R	:	1500	:	100 PF	:	1	:	1500	:	1	:	N/R

FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

54LS155 DECODER, DUAL 2 TO 4 LINE

	N/R	N/R	N/R	N/R	N/R
030 : 79 :	.	N/R : N/R	: 1500 :	100 PF :	1 : N/R : FAIL : 1500 : 1 :

49 : N/K : N/K : N/K : N/K : N/K

54LS157 MULTIPLEXER, QUAD 2 INPUT

030	: 50 :	N/R	:	N/R :	1500 :	100 PF :	1 :	N/R :	1500 :	1 :	N/R
-----	--------	-----	---	-------	--------	----------	-----	-------	--------	-----	-----

JO : N/A ; N/A ; N/A

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026 : 31 : ADVANCED MICRO DEVICES : 54LS157J : N/R : FEB 81 : 100 : 200 PF : 1 : SS : FAIL : 433 : 4 : INPUT(15)(+) GND(8)(-)
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 3%

```

REMARK: VOLTAGE IS AN AVERAGE OF 4 DEVICES

34LS160 COUNTER, DECADE, SYNCHRONOUS

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030 : 51 : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1500 : 1 : N/R

```

FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

54LS161 COUNTER, BINARY, SYNCHRONOUS

	:	N/R	: N/R : 100 PF :	1 : N/R : FAIL :	1500 : 1 :	N/R
030 :	52 :	N/R	:			

FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

TECHNOLOGY: LS TTL
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION	SERIAL NUMBER	MANUFACTURER	DATE	TEST : RES.	NUMBER : TEST	PULSES : TYPE	VOLTAGE : DEV.	PIN COMBINATION
54LS162	COUNTER, DECADE, SYNCHRONOUS								
030	53 : N/R	N/R	N/R	N/R	1500 : 100 PF	1	N/R	FAIL	1500 : 1 : N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%								
54LS163	COUNTER, BINARY, SYNCHRONOUS								
030	54 : N/R	N/R	N/R	N/R	1500 : 100 PF	1	N/R	FAIL	1500 : 1 : N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%								
54LS164	SHIFT REGISTER, 8-BIT GATED								
030	55 : N/R	N/R	N/R	N/R	1500 : 100 PF	1	N/R	FAIL	1500 : 1 : N/R
026	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%								
	36 : SICHETICS	N/R	N/R	N/R	1500 : 100 PF	1	SS	FAIL	228 : 4 : INPUT(1)(+) OUT(7)(-)
	REMARK: VOLTAGE IS AN AVERAGE OF 4 DEVICES								
	FAILURE CRITERIA: CHANGE IN IR OF +500% AT VBR = 30V								
54LS165	SHIFT REGISTER, 8-BIT								
030	56 : N/R	N/R	N/R	N/R	1500 : 100 PF	1	N/R	FAIL	1500 : 1 : N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%								
54LS166	SHIFT REGISTER, 8-BIT								
030	57 : N/R	N/R	N/R	N/R	1500 : 100 PF	1	N/R	FAIL	1500 : 1 : N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%								
54LS173	FLIP-FLOP, QUAD D								
030	58 : N/R	N/R	N/R	N/R	1500 : 100 PF	1	N/R	FAIL	1500 : 1 : N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%								
54LS174	FLIP-FLOP, HEX D								
030	59 : N/R	N/R	N/R	N/R	1500 : 100 PF	1	N/R	FAIL	1500 : 1 : N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%								
54LS175	FLIP-FLOP, QUAD D								
030	60 : N/R	N/R	N/R	N/R	1500 : 100 PF	1	N/R	FAIL	1500 : 1 : N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%								
54LS181	SSI/MSI, ARITH. LOGIC UNIT								
030	61 : N/R	N/R	N/R	N/R	1500 : 100 PF	1	N/R	FAIL	1500 : 1 : N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%								
54LS192	COUNTER, DECADE UP/DOWN								
030	62 : N/R	N/R	N/R	N/R	1500 : 100 PF	1	N/R	FAIL	1500 : 1 : N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%								

TECHNOLOGY: LSTTL
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

SEC. : SEQ. : : DATE : TEST : RES. : : NUMBER : TEST : : : NUM. :
CODE : NUM. : MANUFACTURER : FULL PART NUM. : CODE : DATE : (OHS) : CAP. : PULSES : TYPE : RESULT : VOLTAGE : DEV. : PIN COMBINATION

54LS192 COUNTER, DECADE UP/DOWN

245 : 18 : N/R : N/R : 7547 : N/R : 100 : .1 UF : 1 : SS : FAIL : 59 : 15 : INPUT(+) GND(-)

REMARK: FAILURE VOLTAGE IS AN AVERAGE OF 15 DEVICES. FAILURE CRITERIA: D.C. PARAMETER OUT OF SPEC.

54LS193 COUNTER, BINARY UP/DOWN

030 : 63 : N/R : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1500 : 1 : N/R

FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

54LS194 SHIFT REGISTER, 4-BIT

030 : 64 : N/R : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1500 : 1 : N/R

FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

54LS196 COUNTER, DECADE COUNTER/LATCH

030 : 65 : N/R : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1500 : 1 : N/R

FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

54LS197 COUNTER, BINARY COUNTER/LATCH

030 : 66 : N/R : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1500 : 1 : N/R

FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

54LS20 GATE, DUAL 4 INPUT NAND

030 : 21 : N/R : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1500 : 1 : N/R

FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

54LS21 GATE, DUAL 4 INPUT AND

030 : 22 : N/R : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1500 : 1 : N/R

FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

54LS221 MULTIVIBRATOR, DUAL MONOSTABLE

030 : 67 : N/R : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1500 : 1 : N/R

FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

54LS240 DRIVER, OCTAL BUS

030 : 68 : N/R : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1500 : 1 : N/R

FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

54LS244 DRIVER, OCTAL BUS

030 : 69 : N/R : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1500 : 1 : N/R

FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

BASIC PART NUMBER	DESCRIPTION	SER. : SEQ. :	MANUFACTURER	DATE : TEST :	RES. :	NUMBER : TEST :	VOLTA. : DEV. :	PIN COMBINATION
CODE : NUM. :				DATE : CODE :	(OHMS) :	PULSES : TYPE :		
54LS245	TRANSMITTER, OCTAL BUS							
030	70 : N/R			N/R	1500	100 PF	1	N/R : FAIL : 1500 : 1 : N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%							
54LS251	MULTIPLEXER, 8-INPUT							
030	71 : N/R			N/R	1500	100 PF	1	N/R : FAIL : 1500 : 1 : N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%							
54LS253	MULTIPLEXER, DUAL 4 INPUT							
030	72 : N/R			N/R	1500	100 PF	1	N/R : FAIL : 1500 : 1 : N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%							
54LS257	MULTIPLEXER, QUAD 2 INPUT							
030	73 : N/R			N/R	1500	100 PF	1	N/R : FAIL : 1500 : 1 : N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%							
54LS259	LATCH, 8-BIT ADDRESSABLE							
030	74 : N/R			N/R	1500	100 PF	1	N/R : FAIL : 1500 : 1 : N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%							
54LS266	GATE, QUAD 2 IN. EXCL. NOR							
030	75 : N/R			N/R	1500	100 PF	1	N/R : FAIL : 1500 : 1 : N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%							
54LS27	GATE, TRIPLE 3 INPUT NOR							
030	23 : N/R			N/R	1500	100 PF	1	N/R : FAIL : 1500 : 1 : N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%							
54LS279	LATCH, QUAD RS							
030	76 : N/R			N/R	1500	100 PF	1	N/R : FAIL : 1500 : 1 : N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%							
54LS280	SSI/MSI, 9 BIT PARITY GEN.							
030	77 : N/R			N/R	1500	100 PF	1	N/R : FAIL : 1500 : 1 : N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%							
54LS283	SSI/MSI, 4 BIT BINARY ADDER							
030	78 : N/R			N/R	1500	100 PF	1	N/R : FAIL : 1500 : 1 : N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%							

TECHNOLOGY: LSTTL
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION	SRC. : SEQ. : CODE : NUM. :	MANUFACTURER	DATE : TEST : RES. : : CODE : DATE : (OHMS) :	NUMBER : TEST : : PULSES : TYPE : RESULT :	NUM. : : DEV. : : PIN COMBINATION
54LS295	SHIFT REGISTER , 4-BIT					
030	79 : N/R : FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%			N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1500 : 1 : N/R		
54LS298	MULTIPLEXER , QUAD 2-INPUT					
030	80 : N/R : FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%			N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1500 : 1 : N/R		
54LS299	SHIFT REGISTER , 8-BIT					
030	81 : N/R : FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%			N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1500 : 1 : N/R		
54LS300	GATE , 8 INPUT NAND					
030	24 : N/R : FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%			N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1500 : 1 : N/R		
54LS302	GATE , QUAD 2 INPUT OR					
030	25 : N/R : FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%			N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1500 : 1 : N/R		
54LS303	MULTIPLEXER , DUAL 3-INPUT					
030	82 : N/R : FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%			N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1500 : 1 : N/R		
54LS367	BUFFER/INVERTER , HEX BUFFER					
030	83 : N/R : FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%			N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1500 : 1 : N/R		
54LS368	BUFFER/INVERTER , HEX INVERTER					
030	84 : N/R : FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%			N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1500 : 1 : N/R		
54LS370	GATE , QUAD 2 INPUT NAND					
030	26 : N/R : FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%			N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1500 : 1 : N/R		
54LS373	LATCH , 8 BIT,D TYPE					
030	85 : N/R : FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%			N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1500 : 1 : N/R		

BASIC PART NUMBER	DESCRIPTION	SEC. : SEQ. :	MANUFACTURER	DATE :	TEST :	RES. :	NUMBER :	TEST :	NUM. :				
CODE : NUM. :			FULL PART NUM. :	CODE :	DATE :	(OHMS) :	CAP. :	PULSES :	TYPE :	RESULT :	VOLTAGE :	DEV. :	PIN COMBINATION
54LS374	FLIP-FLOP , OCTAL D												
030 :	86 :	N/R		N/R :	N/R :	1500 :	100 PF :	1 :	N/R :	FAIL :	1500 :	1 :	N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%													
54LS38	GATE , QUAD 2 INPUT NAND												
030 :	27 :	N/R		N/R :	N/R :	1500 :	100 PF :	1 :	N/R :	FAIL :	1500 :	1 :	N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%													
54LS390	COUNTER , DUAL DECADE												
030 :	87 :	N/R		N/R :	N/R :	1500 :	100 PF :	1 :	N/R :	FAIL :	1500 :	1 :	N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%													
54LS393	COUNTER , DUAL 4 BIT BINARY												
030 :	88 :	N/R		N/R :	N/R :	1500 :	100 PF :	1 :	N/R :	FAIL :	1500 :	1 :	N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%													
54LS40	GATE , DUAL 4 INPUT NAND												
030 :	28 :	N/R		N/R :	N/R :	1500 :	100 PF :	1 :	N/R :	FAIL :	1500 :	1 :	N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%													
54LS42	ENCODER , BCD TO DECIMAL												
030 :	29 :	N/R		N/R :	N/R :	1500 :	100 PF :	1 :	N/R :	FAIL :	1500 :	1 :	N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%													
54LS51	GATE , DUAL 2 INPUT AND/OR												
030 :	30 :	N/R		N/R :	N/R :	1500 :	100 PF :	1 :	N/R :	FAIL :	1500 :	1 :	N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%													
54LS54	GATE , AND/OR INVERT												
030 :	31 :	N/R		N/R :	N/R :	1500 :	100 PF :	1 :	N/R :	FAIL :	1500 :	1 :	N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%													
54LS670	SSI/MSI , 16 BIT REGISTER FILE												
030 :	89 :	N/R		N/R :	N/R :	1500 :	100 PF :	1 :	N/R :	FAIL :	1500 :	1 :	N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%													
54LS74	FLIP-FLOP , DUAL D												
030 :	32 :	N/R		N/R :	N/R :	1500 :	100 PF :	1 :	N/R :	FAIL :	1500 :	1 :	N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%													
303 :	20 :	NATIONAL SEMI		N/R :	N/R :	1500 :	100 PF :	1 :	SS :	FAIL :	133 :	1 :	IN.(+) APPT(-)
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL. FAILURE CRITERIA: DEGRADATION OF V-I CURVE OR FUNCTIONAL FAILURE.													

TECHNOLOGY: LSTTL
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION	SRC. : SEQ. :	MANUFACTURER	DATE : TEST : RES. :	FULL PART NUM. :	CAP. :	PULSES :	TYPE :	RESULT :	VOLTAGE :	DEV. :	NUM. :	PIN COMBINATION
(CONTINUED)													
54LS74	FLIP-FLOP , DUAL D												
383	21 : NATIONAL SEMI			N/R : N/R : 1500 : 100 PF :	1 : SS : FAIL :	280 : 1 : OUT. (+) APTT(-)							
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
383	22 : NATIONAL SEMI			N/R : N/R : 1500 : 100 PF :	1 : SS : FAIL :	483 : 1 : VCC(+) APTT(-)							
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
54LS75	LATCH , QUAD BISTABLE												
030	33 : N/R			N/R : N/R : 1500 : 100 PF :	1 : N/R : FAIL :	1500 : 1 : N/R							
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
54LS85	SSI/MSI , 4 BIT MAG. COMPARATOR												
030	34 : N/R			N/R : N/R : 1500 : 100 PF :	1 : N/R : FAIL :	1500 : 1 : N/R							
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
54LS86	GATE , QUAD 2 IN. EXCL. OR												
030	35 : N/R			N/R : N/R : 1500 : 100 PF :	1 : N/R : FAIL :	1500 : 1 : N/R							
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
54LS90	COUNTER , DECADE												
383	23 : NATIONAL SEMI			N/R : N/R : 1500 : 100 PF :	1 : SS : FAIL :	2692 : 1 : IN. (-) APTT(+)							
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
383	24 : NATIONAL SEMI			N/R : N/R : 1500 : 100 PF :	1 : SS : FAIL :	618 : 1 : OUT. (-) APTT(+)							
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
383	25 : NATIONAL SEMI			N/R : N/R : 1500 : 100 PF :	1 : SS : FAIL :	49716 : 1 : VCC(-) APTT(-)							
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
54LS92	COUNTER , DIVIDE BY 12												
030	36 : N/R			N/R : N/R : 1500 : 100 PF :	1 : N/R : FAIL :	1500 : 1 : N/R							
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
74LS00	GATE , QUAD 2 INPUT NAND												
030	131 : N/R			N/R : N/R : 1500 : 100 PF :	1 : N/R : FAIL :	1500 : 1 : N/R							
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												
384	8 : N/R			N/R : N/R : 1000 : 200 PF :	1 : SS : FAIL :	400 : 1 : EACH PIN(+)							
	REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 1000V.												
	FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.												
384	9 : N/R			N/R : N/R : 1000 : 200 PF :	1 : SS : FAIL :	400 : 1 : EACH PIN(+)							
	REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 700V.												
	FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.												
384	14 : N/R			N/R : N/R : 1000 : 200 PF :	1 : SS : FAIL :	950 : 1 : EACH PIN(+)							
	REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 1325V.												
	FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.												
027	8 : MOTOROLA SEMI			N/R : N/R : 1500 : 100 PF :	1 : GN : FAIL :	1000 : 2 : N/R							
	FAILURE CRITERIA: DC PARAMETER OUT OF SPEC												

TECHNOLOGY: LSTTL
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION	SRC. : SEQ. : CODE : NUM. :	MANUFACTURER	FULL PART NUM. :	DATE :	TEST : RES. :	NUMBER : TEST :	CAP. : PULSES :	TYPE : RESULT :	VOLTAGE : DEV. :	PIN COMBINATION
74LS00	GATE , QUAD 2 INPUT NAND										
027	9 : MOTOROLA SEMI			N/R : N/R	1500 :	100 PF :	1 :	GN :	PASS :	1000 :	13 :
028	6 : N/R			N/R : N/R	1500 :	117 PF :	30 :	SS :	FAIL :	1000 :	5 :
	FAILURE CRITERIA: CHANGE IN ITH OF 10%										
74LS02	GATE , QUAD 2 INPUT NOR										
030	132 : N/R			N/R : N/R	1500 :	100 PF :	1 :	N/R :	FAIL :	1500 :	1 :
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%										
74LS03	GATE , QUAD 2 INPUT NAND										
030	133 : N/R			N/R : N/R	1500 :	100 PF :	1 :	N/R :	FAIL :	1500 :	1 :
384	17 : N/R			N/R : N/R	1000 :	200 PF :	1 :	SS :	FAIL :	1000 :	1 :
	REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 1325V.										
	FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.										
74LS05	BUFFER/INVERTER , HEX INVERTER										
030	134 : N/R			N/R : N/R	1500 :	100 PF :	1 :	N/R :	FAIL :	1500 :	1 :
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%										
74LS08	GATE , QUAD 2 INPUT AND										
030	135 : N/R			N/R : N/R	1500 :	100 PF :	1 :	N/R :	FAIL :	1500 :	1 :
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%										
74LS09	GATE , QUAD 2 INPUT AND										
030	136 : N/R			N/R : N/R	1500 :	100 PF :	1 :	N/R :	FAIL :	1500 :	1 :
127	12 : TEXAS INSTRUMENTS			N/R : 79	1000 :	200 PF :	1 :	SS :	FAIL :	800 :	1 :
	FAILURE CRITERIA: 100A INPUT LEAKAGE AT THE VOLTAGE PREVIOUSLY MEASURED TO BE 10A										
127	13 : TEXAS INSTRUMENTS			N/R : 79	1000 :	200 PF :	1 :	SS :	FAIL :	1500 :	1 :
	FAILURE CRITERIA: 100A INPUT LEAKAGE AT THE VOLTAGE PREVIOUSLY MEASURED TO BE 10A										
127	14 : TEXAS INSTRUMENTS			N/R : 79	1000 :	200 PF :	10 :	SS :	FAIL :	400 :	1 :
	FAILURE CRITERIA: 100A INPUT LEAKAGE AT THE VOLTAGE PREVIOUSLY MEASURED TO BE 10A										
127	15 : TEXAS INSTRUMENTS			N/R : 79	1000 :	200 PF :	10 :	SS :	FAIL :	800 :	1 :
	FAILURE CRITERIA: 100A INPUT LEAKAGE AT THE VOLTAGE PREVIOUSLY MEASURED TO BE 10A										
127	16 : SINGNETICS			N/R : 79	1000 :	200 PF :	1 :	SS :	FAIL :	1400 :	1 :
	FAILURE CRITERIA: 100A INPUT LEAKAGE AT THE VOLTAGE PREVIOUSLY MEASURED TO BE 10A										
127	17 : SINGNETICS			N/R : 79	1000 :	200 PF :	1 :	SS :	PASS :	1500 :	1 :
	FAILURE CRITERIA: 100A INPUT LEAKAGE AT THE VOLTAGE PREVIOUSLY MEASURED TO BE 10A										
127	18 : SINGNETICS			N/R : 79	1000 :	200 PF :	10 :	SS :	FAIL :	1400 :	1 :
	FAILURE CRITERIA: 100A INPUT LEAKAGE AT THE VOLTAGE PREVIOUSLY MEASURED TO BE 10A										
127	19 : SINGNETICS			N/R : 79	1000 :	200 PF :	10 :	SS :	PASS :	1500 :	1 :
	FAILURE CRITERIA: 100A INPUT LEAKAGE AT THE VOLTAGE PREVIOUSLY MEASURED TO BE 10A										

BASIC PART NUMBER	DESCRIPTION
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N/R

重要提醒

N/R

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N/A

1. 引言

2/2

N/R

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TECHNOLOGY: LSTTL
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION	SER. : SEQ. : CODE : NUM. :	MANUFACTURER	FULL PART NUM. :	DATE : TEST : RES. :	NUMBER : TEST : PULSES : TYPE : RESULT : VOLTAGE : DEV. :	NUM. : PIN COMBINATION
74LS125	BUFFER/INVERTER, QUAD GATED						
030 : 162 :	N/R : N/R : N/R : N/R : N/R : 1500 : 100 PF :					1 : N/R : FAIL : 1500 :	1 : N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%						
74LS126	BUFFER/INVERTER, QUAD GATED						
030 : 163 :	N/R : N/R : N/R : N/R : N/R : 1500 : 100 PF :					1 : N/R : FAIL : 1500 :	1 : N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%						
74LS138	DECODER, DUAL 2 TO 4 LINE						
030 : 164 :	N/R : N/R : N/R : N/R : N/R : 1500 : 100 PF :					1 : N/R : FAIL : 1500 :	1 : N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%						
74LS139	DECODER, DUAL 2 TO 4 LINE						
030 : 165 :	N/R : N/R : N/R : N/R : N/R : 1500 : 100 PF :					1 : N/R : FAIL : 1500 :	1 : N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%						
74LS14	SSI/MSI, HEX SCHMITT TRIGGER						
030 : 140 :	N/R : N/R : N/R : N/R : N/R : 1500 : 100 PF :					1 : N/R : FAIL : 1500 :	1 : N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%						
74LS148	ENCODER, 8 INPUT PRIORITY						
030 : 166 :	N/R : N/R : N/R : N/R : N/R : 1500 : 100 PF :					1 : N/R : FAIL : 1500 :	1 : N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%						
74LS15	GATE, TRIPLE 3 INPUT AND						
030 : 141 :	N/R : N/R : N/R : N/R : N/R : 1500 : 100 PF :					1 : N/R : FAIL : 1500 :	1 : N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%						
74LS151	MULTIPLEXER, 8-INPUT						
030 : 167 :	N/R : N/R : N/R : N/R : N/R : 1500 : 100 PF :					1 : N/R : FAIL : 1500 :	1 : N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%						
74LS153	MULTIPLEXER, DUAL 4 INPUT						
030 : 168 :	N/R : N/R : N/R : N/R : N/R : 1500 : 100 PF :					1 : N/R : FAIL : 1500 :	1 : N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%						
74LS154	DECODER, 4 TO 16 LINE						
030 : 169 :	N/R : N/R : N/R : N/R : N/R : 1500 : 100 PF :					1 : N/R : FAIL : 1500 :	1 : N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%						

TECHNOLOGY: LSTTL
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION	SERIAL : SEQ. : CODE : NUM. :	MANUFACTURER	DATE : TEST : : CODE : DATE :	RES. : CAP. :	NUMBER : TEST : PULSES : TYPE :	RESULT : VOLTAGE :	DEV. : PIN :	COMBINATION
74LS155	DECODER, DUAL 2 TO 4 LINE								
030	170 : N/R : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1500 : 1 : N/R								
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%								
74LS157	MULTIPLEXER, QUAD 2 INPUT								
030	171 : N/R : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1500 : 1 : N/R								
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%								
74LS160	COUNTER, DECADE, SYNCHRONOUS								
030	172 : N/R : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1500 : 1 : N/R								
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%								
74LS161	COUNTER, BINARY, SYNCHRONOUS								
030	173 : N/R : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1500 : 1 : N/R								
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%								
74LS162	COUNTER, DECADE, SYNCHRONOUS								
030	174 : N/R : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1500 : 1 : N/R								
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%								
74LS163	COUNTER, BINARY, SYNCHRONOUS								
030	175 : N/R : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1500 : 1 : N/R								
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%								
239	1 : N/R : N/R : N/R : N/R : 62 PF : 1 : SS : FAIL : 400 : 1 : IN.(2,6,10)(+) GND(8)(-)								
	FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE								
239	2 : N/R : N/R : N/R : N/R : 62 PF : 1 : SS : FAIL : 400 : 1 : IN.(6,10)(+) GND(8)(-)								
	FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE								
239	3 : N/R : N/R : N/R : N/R : 62 PF : 1 : SS : FAIL : 400 : 1 : IN.(2,6,10)(+) GND(8)(-)								
	FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE								
240	1 : N/R : N/R : N/R : N/R : 120 PF : 1 : SS : FAIL : 300 : 1 : IN.(2,6)(+) GND(8)(-)								
	FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE								
240	2 : N/R : N/R : N/R : N/R : 120 PF : 1 : SS : FAIL : 100 : 1 : IN.(10)(+) GND(8)(-)								
	REMARK: INPUT PINS 2 AND 6 FAILED AT 300V. FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE								
240	3 : N/R : N/R : N/R : N/R : 120 PF : 1 : SS : FAIL : 200 : 3 : IN.(10)(+) GND(8)(-)								
	REMARK: INPUT PINS 2 AND 6 FAILED AT 300V. FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE								
241	1 : N/R : N/R : N/R : N/R : 510 PF : 1 : SS : FAIL : 200 : 2 : IN.(2,6,10)(+) GND(8)(-)								
	FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE								
241	2 : N/R : N/R : N/R : N/R : 510 PF : 1 : SS : FAIL : 100 : 3 : IN.(10)(+) GND(8)(-)								
	REMARK: INPUT PINS 2 AND 6 FAILED AT 200V. FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE								
242	1 : N/R : N/R : N/R : N/R : .001 UF : 1 : SS : FAIL : 100 : 1 : IN.(10)(+) GND(8)(-)								
	REMARK: INPUT PINS 2 AND 6 FAILED AT 200V. FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE								
242	2 : N/R : N/R : N/R : N/R : .001 UF : 1 : SS : FAIL : 100 : 2 : IN.(2,10)(+) GND(8)(-)								
	FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE								
242	3 : N/R : N/R : N/R : N/R : .001 UF : 1 : SS : FAIL : 100 : 1 : IN.(6,10)(+) GND(8)(-)								
	FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE								

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TECHNOLOGY: LSTTL
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BASIC PART NUMBER DESCRIPTION

SEC. : SEQ. : CODE : NUM. :	MANUFACTURER	FULL PART NUM. :	DATE : TEST : CODE : DATE :	RES. : CAP. :	NUMBER : TEST : PULSES : TYPE :	VOLTAGE : DEV. : VOLTAGE : DEV. :	PIN COMBINATION
74LS175	FLIP-FLOP , QUAD D						
127 : 29 :	SIGNETICS	: 74LS175	: N/R : 79 : 1000 :	200 PF :	1 : SS : FAIL :	1400 :	1 : INPUTS(+) GROUND(-)
	FAILURE CRITERIA: 10UA INPUT LEAKAGE AT THE VOLTAGE PREVIOUSLY MEASURED TO BE 1UA						
127 : 30 :	SIGNETICS	: 74LS175	: N/R : 79 : 1000 :	200 PF :	10 : SS : FAIL :	1000 :	1 : INPUTS(+) GROUND(-)
	FAILURE CRITERIA: 10UA INPUT LEAKAGE AT THE VOLTAGE PREVIOUSLY MEASURED TO BE 1UA						
127 : 31 :	SIGNETICS	: 74LS175	: N/R : 79 : 1000 :	200 PF :	10 : SS : FAIL :	1400 :	1 : INPUTS(+) GROUND(-)
	FAILURE CRITERIA: 10UA INPUT LEAKAGE AT THE VOLTAGE PREVIOUSLY MEASURED TO BE 1UA						
127 : 32 :	10	: SN74LS175	: N/R : 79 : 1000 :	200 PF :	1 : SS : FAIL :	800 :	1 : INPUTS(+) GROUND(-)
	FAILURE CRITERIA: 10UA INPUT LEAKAGE AT THE VOLTAGE PREVIOUSLY MEASURED TO BE 1UA						
127 : 33 :	10	: SN74LS175	: N/R : 79 : 1000 :	200 PF :	1 : SS : FAIL :	1000 :	1 : INPUTS(+) GROUND(-)
	FAILURE CRITERIA: 10UA INPUT LEAKAGE AT THE VOLTAGE PREVIOUSLY MEASURED TO BE 1UA						
127 : 34 :	10	: SN74LS175	: N/R : 79 : 1000 :	200 PF :	10 : SS : FAIL :	800 :	1 : INPUTS(+) GROUND(-)
	FAILURE CRITERIA: 10UA INPUT LEAKAGE AT THE VOLTAGE PREVIOUSLY MEASURED TO BE 1UA						
127 : 35 :	10	: SN74LS175	: N/R : 79 : 1000 :	200 PF :	10 : SS : FAIL :	1000 :	1 : INPUTS(+) GROUND(-)
	FAILURE CRITERIA: 10UA INPUT LEAKAGE AT THE VOLTAGE PREVIOUSLY MEASURED TO BE 1UA						
127 : 36 :	MOTOROLA SEMI	: SN74LS175	: N/R : 79 : 1000 :	200 PF :	1 : SS : FAIL :	800 :	2 : INPUTS(+) GROUND(-)
	FAILURE CRITERIA: 10UA INPUT LEAKAGE AT THE VOLTAGE PREVIOUSLY MEASURED TO BE 1UA						
127 : 37 :	MOTOROLA SEMI	: SN74LS175	: N/R : 79 : 1000 :	200 PF :	10 : SS : FAIL :	1000 :	2 : INPUTS(+) GROUND(-)
	FAILURE CRITERIA: 10UA INPUT LEAKAGE AT THE VOLTAGE PREVIOUSLY MEASURED TO BE 1UA						

74LS181 SSI/MSI , ARITH. LOGIC UNIT

030 : 182 : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1500 : 1 : N/R

FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

74LS192 COUNTER , DECADE UP/DOWN

030 : 183 : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1500 : 1 : N/R

FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

74LS193 COUNTER , BINARY UP/DOWN

030 : 184 : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1500 : 1 : N/R

FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

74LS194 SHIFTER REGISTER , 4-BIT

030 : 185 : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1500 : 1 : N/R

FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

74LS196 COUNTER , DECADE COUNTER/LATCH

030 : 186 : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1500 : 1 : N/R

FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

74LS197 COUNTER , BINARY COUNTER/LATCH

030 : 187 : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1500 : 1 : N/R

FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

TECHNOLOGY: LSITL
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

SER. : SEQ. : : DATE : TEST : RES. : : NUMBER : TEST : : NUR. :
CODE : RMN. : MANUFACTURER : FULL PART NUM. : CODE : DATE : (OHMS) : CAP. : PULSES : TYPE : RESULT : VOLTAGE : DEV. : PIN COMBINATION

74LS20 GATE, DUAL 4 INPUT NAND

030 : 142 : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1500 : 1 : N/R

FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

74LS21 GATE, DUAL 4 INPUT AND

030 : 143 : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1500 : 1 : N/R

FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

74LS221 MULTIVIBRATOR, DUAL MONOSTABLE

030 : 188 : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1500 : 1 : N/R

FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

74LS240 DRIVER, OCTAL BUS

030 : 189 : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1500 : 1 : N/R

FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

127 : 1 : SOMETICS : 74LS240 : N/R : 79 : 1000 : 200 PF : 1 : SS : FAIL : 800 : 1 : INPUTS(+) GROUND(-)

FAILURE CRITERIA: 10UA INPUT LEAKAGE AT THE VOLTAGE PREVIOUSLY MEASURED TO BE LUA

127 : 2 : SOMETICS : 74LS240 : N/R : 79 : 1000 : 200 PF : 1 : SS : FAIL : 1500 : 1 : INPUTS(+) GROUND(-)

FAILURE CRITERIA: 10UA INPUT LEAKAGE AT THE VOLTAGE PREVIOUSLY MEASURED TO BE LUA

127 : 3 : SOMETICS : 74LS240 : N/R : 79 : 1000 : 200 PF : 10 : SS : FAIL : 800 : 1 : INPUTS(+) GROUND(-)

FAILURE CRITERIA: 10UA INPUT LEAKAGE AT THE VOLTAGE PREVIOUSLY MEASURED TO BE LUA

127 : 4 : SOMETICS : 74LS240 : N/R : 79 : 1000 : 200 PF : 10 : SS : FAIL : 1400 : 1 : INPUTS(+) GROUND(-)

FAILURE CRITERIA: 10UA INPUT LEAKAGE AT THE VOLTAGE PREVIOUSLY MEASURED TO BE LUA

127 : 5 : MOTOROLA SEMI : SN74LS240 : N/R : 79 : 1000 : 200 PF : 1 : SS : FAIL : 1200 : 1 : INPUTS(+) GROUND(-)

FAILURE CRITERIA: 10UA INPUT LEAKAGE AT THE VOLTAGE PREVIOUSLY MEASURED TO BE LUA

127 : 6 : MOTOROLA SEMI : SN74LS240 : N/R : 79 : 1000 : 200 PF : 1 : SS : FAIL : 1400 : 1 : INPUTS(+) GROUND(-)

FAILURE CRITERIA: 10UA INPUT LEAKAGE AT THE VOLTAGE PREVIOUSLY MEASURED TO BE LUA

127 : 7 : MOTOROLA SEMI : SN74LS240 : N/R : 79 : 1000 : 200 PF : 10 : SS : FAIL : 1200 : 2 : INPUTS(+) GROUND(-)

FAILURE CRITERIA: 10UA INPUT LEAKAGE AT THE VOLTAGE PREVIOUSLY MEASURED TO BE LUA

127 : 8 : TEXAS INSTRUMENTS : SN74LS240 : N/R : 79 : 1000 : 200 PF : 1 : SS : FAIL : 1000 : 1 : INPUTS(+) GROUND(-)

FAILURE CRITERIA: 10UA INPUT LEAKAGE AT THE VOLTAGE PREVIOUSLY MEASURED TO BE LUA

127 : 9 : TEXAS INSTRUMENTS : SN74LS240 : N/R : 79 : 1000 : 200 PF : 1 : SS : FAIL : 1500 : 1 : INPUTS(+) GROUND(-)

FAILURE CRITERIA: 10UA INPUT LEAKAGE AT THE VOLTAGE PREVIOUSLY MEASURED TO BE LUA

127 : 10 : TEXAS INSTRUMENTS : SN74LS240 : N/R : 79 : 1000 : 200 PF : 10 : SS : FAIL : 1000 : 1 : INPUTS(+) GROUND(-)

FAILURE CRITERIA: 10UA INPUT LEAKAGE AT THE VOLTAGE PREVIOUSLY MEASURED TO BE LUA

127 : 11 : TEXAS INSTRUMENTS : SN74LS240 : N/R : 79 : 1000 : 200 PF : 10 : SS : PASS : 1500 : 1 : INPUTS(+) GROUND(-)

FAILURE CRITERIA: 10UA INPUT LEAKAGE AT THE VOLTAGE PREVIOUSLY MEASURED TO BE LUA

74LS244 DRIVER, SCHMITT TRIGGER

030 : 190 : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1500 : 1 : N/R

FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

027 : 7 : MOTOROLA SEMI : N/R : N/R : 1500 : 100 PF : 1 : CN : PASS : 1000 : 15 : N/R

FAILURE CRITERIA: DC PARAMETER OUT OF SPEC

TECHNOLOGY: LSTTL
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION	SEC. : SEQ. : CODE : NUM. :	MANUFACTURER	DATE : TEST : RES. : : CODE : (OHMS) :	NUM. : : PULSES : TYPE : RESULT : VOLTAGE : DEV. : : : : : : PIN COMBINATION
74LS245	TRANSCEIVER, OCTAL BUS				
030 : 191 :	N/R	N/R	N/R	1500 : 100 PF :	1 : N/R : FAIL : 1500 : 1 : N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%				
74LS251	MULTIPLEXER, 8 INPUT				
030 : 192 :	N/R	N/R	N/R	1500 : 100 PF :	1 : N/R : FAIL : 1500 : 1 : N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%				
384 : 12 :	N/R	N/R	N/R	1000 : 200 PF :	1 : SS : FAIL : 550 : 1 : EACH PIN(+)
	REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 750V.				
	FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.				
384 : 15 :	N/R	N/R	N/R	1000 : 200 PF :	1 : SS : FAIL : 1150 : 1 : EACH PIN(+)
	REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 1600V.				
	FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.				
384 : 18 :	N/R	N/R	N/R	1000 : 200 PF :	1 : SS : FAIL : 1100 : 1 : EACH PIN(+)
	REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 1350V.				
	FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.				
74LS253	MULTIPLEXER, DUAL 4 INPUT				
030 : 193 :	N/R	N/R	N/R	1500 : 100 PF :	1 : N/R : FAIL : 1500 : 1 : N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%				
74LS257	MULTIPLEXER, QUAD 2 INPUT				
030 : 194 :	N/R	N/R	N/R	1500 : 100 PF :	1 : N/R : FAIL : 1500 : 1 : N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%				
74LS259	LATCH, 8-BIT ADDRESSABLE				
030 : 195 :	N/R	N/R	N/R	1500 : 100 PF :	1 : N/R : FAIL : 1500 : 1 : N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%				
74LS266	GATE, QUAD 2 IN. EXCL. NOR				
030 : 196 :	N/R	N/R	N/R	1500 : 100 PF :	1 : N/R : FAIL : 1500 : 1 : N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%				
74LS27	GATE, TRIPLE 3 INPUT NOR				
030 : 144 :	N/R	N/R	N/R	1500 : 100 PF :	1 : N/R : FAIL : 1500 : 1 : N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%				
74LS279	LATCH, QUAD RS				
030 : 197 :	N/R	N/R	N/R	1500 : 100 PF :	1 : N/R : FAIL : 1500 : 1 : N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%				

[illegible]

74LS280 SSI/MSI . 9 BIT PARITY GEN.

FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

FAILURE CRITERIA:- PARAMETER CHANGE OF GREATER THAN 10%

FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

FAILURE CRITERIA: EXCESSIVE LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.

FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

BASIC PART NUMBER	DESCRIPTION	SBC. : SEQ.:	CODE :	MANUFACTURER	: DATE :	TEST :	RES. :	CAP. :	PULSES :	VOLTAGE :	DEV. :	PIN COMBINATION
74LS37	GATE , QUAD 2 INPUT NAND											
030	147 :	N/R	:	N/R	:	N/R	:	100 PF :	1 :	N/R :	1500 .	1 :
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%											
74LS373	LATCH , 8-BIT,D TYPE											
030	205 :	N/R	:	N/R	:	N/R	:	100 PF :	1 :	N/R :	1500 :	1 :
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%											
74LS374	FLIP-FLOP , OCTAL D											
030	206 :	N/R	:	N/R	:	N/R	:	100 PF :	1 :	N/R :	1500 :	1 :
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%											
74LS38	GATE , QUAD 2 INPUT NAND											
030	148 :	N/R	:	N/R	:	N/R	:	100 PF :	1 :	N/R :	1500 :	1 :
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%											
74LS390	COUNTER , DUAL DECADE											
030	207 :	N/R	:	N/R	:	N/R	:	100 PF :	1 :	N/R :	1500 :	1 :
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%											
74LS393	COUNTER , DUAL 4 BIT BINARY											
030	208 :	N/R	:	N/R	:	N/R	:	100 PF :	1 :	N/R :	1500 :	1 :
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%											
74LS40	GATE , DUAL 4 INPUT NAND											
030	149 :	N/R	:	N/R	:	N/R	:	100 PF :	1 :	N/R :	1500 :	1 :
	FAILURE CRITERIA:-PARAMETER CHANGE OF GREATER THAN 10%											
74LS42	ENCODER , BCD TO DECIMAL											
030	150 :	N/R	:	N/R	:	N/R	:	100 PF :	1 :	N/R :	1500 :	1 :
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%											
74LS51	GATE , DUAL 2 INPUT AND/OR											
030	151 :	N/R	:	N/R	:	N/R	:	100 PF :	1 :	N/R :	1500 :	1 :
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%											
74LS54	GATE , AND/OR INVERT											
030	152 :	N/R	:	N/R	:	N/R	:	100 PF :	1 :	N/R :	1500 :	1 :
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%											

TECHNOLOGY: LSTTL
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION	SEC. : SEQ. : CODE : NUM. :	MANUFACTURER	FULL PART NUM. :	DATE : TEST : CODE : (ORHS) :	CAP. : PULSES : TYPE : RESULT :	NUM. : VOLTAGE : DEV. :	PIN COMBINATION
74LS670	SSI/MSI , 16 BIT REGISTER FILE							
030	209 : N/R : FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%			N/R : N/R : 1500 : 100 PF :	1 : N/R : FAIL :	1500 : 1 :	N/R	
74LS74	FLIP-FLOP , DUAL D							
030	153 : N/R : FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%			N/R : N/R : 1500 : 100 PF :	1 : N/R : FAIL :	1500 : 1 :	N/R	
384	4 : N/R : REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 1310V. FAILURE CRITERIA: 200 MA LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.			N/R : N/R : 1000 : 200 PF :	1 : SS : FAIL :	700 : 1 :	EACH PIN(+)	
384	5 : N/R : REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 1360V. FAILURE CRITERIA: 2 UA LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.			N/R : N/R : 1000 : 200 PF :	1 : SS : FAIL :	900 : 1 :	EACH PIN(+)	
384	6 : N/R : REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 1675V. FAILURE CRITERIA: 20 UA LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.			N/R : N/R : 1000 : 200 PF :	1 : SS : FAIL :	1200 : 1 :	EACH PIN(+)	
384	7 : N/R : REMARK: AVERAGE FAILURE VOLTAGE FOR ALL PINS ON AN UNKNOWN NUMBER OF DEVICES IS 4550V. FAILURE CRITERIA: 2 MA LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.			N/R : N/R : 1000 : 200 PF :	1 : SS : FAIL :	3700 : 1 :	EACH PIN(+)	
74LS75	LATCH , QUAD BISTABLE							
030	154 : N/R : FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%			N/R : N/R : 1500 : 100 PF :	1 : N/R : FAIL :	1500 : 1 :	N/R	
74LS86	GATE , QUAD 2 IN. EXCL. OR							
030	156 : N/R : FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%			N/R : N/R : 1500 : 100 PF :	1 : N/R : FAIL :	1500 : 1 :	N/R	
74LS92	COUNTER , DIVIDE BY 12							
030	157 : N/R : FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%			N/R : N/R : 1500 : 100 PF :	1 : N/R : FAIL :	1500 : 1 :	N/R	
75LS85	SSI/MSI , 4 BIT MAG.COMPARATOR							
030	155 : N/R : FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%			N/R : N/R : 1500 : 100 PF :	1 : N/R : FAIL :	1500 : 1 :	N/R	
N/R	BUFFER/INVERTER , HEX INVERTER							
014	4 : N/R : REMARK: 900 VOLTS IS AN AVERAGE OF AN UNKNOWN NUMBER OF DEVICES. FAILURE CRITERIA: GREATER THAN 20MA INPUT LEAKAGE AT 5 VOLTS			N/R : N/R : 100 : 100 PF :	1 : SS : FAIL :	900 : N/R :	INPUT	
017	4 : N/R : REMARK: 500 VOLTS IS AN AVERAGE OF AN UNKNOWN NUMBER OF DEVICES. FAILURE CRITERIA: GREATER THAN 20MA INPUT LEAKAGE AT 5 VOLTS.			N/R : N/R : 100 : 250 PF :	1 : SS : FAIL :	500 : N/R :	INPUT	
020	4 : N/R : REMARK: 350 VOLTS IS AN AVERAGE OF AN UNKNOWN NUMBER OF DEVICES. FAILURE CRITERIA: GREATER THAN 20 MA INPUT LEAKAGE AT 5 VOLTS.			N/R : N/R : 100 : 500 PF :	1 : SS : FAIL :	350 : N/R :	INPUT	

BASIC PART NUMBER	DESCRIPTION
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74F00 GATE . QUAD 2 INPUT NAND

24F04 BUFFER/INVERTER - HEX

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TECHNOLOGY: ADVANCED STTL
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

SRC. : SEQ.:	DATE :	TEST :	RES. :	CAP. :	NUMBER :	TEST :	NUM. :
CODE : NUM.:	MANUFACTURER :	FULL PART NUM. :	CODE :	DATE :	PULSES :	TYPE :	VOLTAGE :
74F04	BUFFER/INVERTER , HEX					RESULT :	DEV. :
							PIN COMBINATION
171	4 : FAIRCHILD SEMI	74F04PC	8027	N/R	100 PF	1 : GN : FAIL :	1250 : 2 : INPUT(9)(+) COM.(7)(-)
	FAILURE CRITERIA: 10X	CHANGE IN ELECTRICAL PARAMETERS.					
171	5 : FAIRCHILD SEMI	74F04PC	8027	N/R	100 PF	1 : GN : FAIL :	1250 : 2 : IN.(11)(+) COM.(7)(-)
	FAILURE CRITERIA: 10X	CHANGE IN ELECTRICAL PARAMETERS.					
171	6 : FAIRCHILD SEMI	74F04PC	8027	N/R	100 PF	1 : GN : FAIL :	1250 : 2 : IN.(13)(+) COM.(7)(-)
	FAILURE CRITERIA: 10X	CHANGE IN ELECTRICAL PARAMETERS.					
171	7 : FAIRCHILD SEMI	74F04PC	8027	N/R	100 PF	1 : GN : PASS :	1250 : 1 : COM.(7)(+) OUT.(2)(-)
	FAILURE CRITERIA: 10X	CHANGE IN ELECTRICAL PARAMETERS.					
171	8 : FAIRCHILD SEMI	74F04PC	8027	N/R	100 PF	1 : GN : PASS :	1250 : 1 : COM.(7)(+) OUT.(4)(-)
	FAILURE CRITERIA: 10X	CHANGE IN ELECTRICAL PARAMETERS.					
171	9 : FAIRCHILD SEMI	74F04PC	8027	N/R	100 PF	1 : GN : PASS :	1250 : 1 : COM.(7)(+) OUT.(6)(-)
	FAILURE CRITERIA: 10X	CHANGE IN ELECTRICAL PARAMETERS.					
171	10 : FAIRCHILD SEMI	74F04PC	8027	N/R	100 PF	1 : GN : PASS :	1250 : 1 : COM.(7)(-) OUT.(8)(-)
	FAILURE CRITERIA: 10X	CHANGE IN ELECTRICAL PARAMETERS.					
171	11 : FAIRCHILD SEMI	74F04PC	8027	N/R	100 PF	1 : GN : PASS :	1250 : 1 : COM.(7)(+) OUT.(10)(-)
	FAILURE CRITERIA: 10X	CHANGE IN ELECTRICAL PARAMETERS.					
171	12 : FAIRCHILD SEMI	74F04PC	8027	N/R	100 PF	1 : GN : PASS :	1250 : 1 : COM.(7)(+) OUT.(12)(-)
	FAILURE CRITERIA: 10X	CHANGE IN ELECTRICAL PARAMETERS.					
171	13 : FAIRCHILD SEMI	74F04PC	8027	N/R	100 PF	1 : GN : FAIL :	1250 : 2 : IN.(1)(+) OUT.(2)(-)
	FAILURE CRITERIA: 10X	CHANGE IN ELECTRICAL PARAMETERS.					
171	14 : FAIRCHILD SEMI	74F04PC	8027	N/R	100 PF	1 : GN : FAIL :	1250 : 2 : IN.(3)(+) OUT.(4)(-)
	FAILURE CRITERIA: 10X	CHANGE IN ELECTRICAL PARAMETERS.					
171	15 : FAIRCHILD SEMI	74F04PC	8027	N/R	100 PF	1 : GN : FAIL :	1250 : 2 : IN.(5)(+) OUT.(6)(-)
	FAILURE CRITERIA: 10X	CHANGE IN ELECTRICAL PARAMETERS.					
171	16 : FAIRCHILD SEMI	74F04PC	8027	N/R	100 PF	1 : GN : FAIL :	1250 : 2 : IN.(9)(+) OUT.(8)(-)
	FAILURE CRITERIA: 10X	CHANGE IN ELECTRICAL PARAMETERS.					
171	17 : FAIRCHILD SEMI	74F04PC	8027	N/R	100 PF	1 : GN : FAIL :	1250 : 2 : IN.(11)(+) OUT.(10)(-)
	FAILURE CRITERIA: 10X	CHANGE IN ELECTRICAL PARAMETERS.					
171	18 : FAIRCHILD SEMI	74F04PC	8027	N/R	100 PF	1 : GN : FAIL :	1250 : 2 : IN.(13)(+) OUT.(12)(-)
	FAILURE CRITERIA: 10X	CHANGE IN ELECTRICAL PARAMETERS.					
171	19 : FAIRCHILD SEMI	74F04PC	8027	N/R	100 PF	1 : GN : PASS :	1250 : 1 : COM.(7)(+) VCC(-)
	FAILURE CRITERIA: 10X	CHANGE IN ELECTRICAL PARAMETERS.					
172	1 : FAIRCHILD SEMI	74F04PC	8027	N/R	100 PF	1 : GN : FAIL :	5000 : 2 : COM.(7)(+) OUT.(2)(-)
	FAILURE CRITERIA: 10X	CHANGE IN ELECTRICAL PARAMETERS.					
172	2 : FAIRCHILD SEMI	74F04PC	8027	N/R	100 PF	1 : GN : PASS :	5000 : 1 : COM.(7)(+) OUT.(4)(-)
	FAILURE CRITERIA: 10X	CHANGE IN ELECTRICAL PARAMETERS.					
172	3 : FAIRCHILD SEMI	74F04PC	8027	N/R	100 PF	1 : GN : PASS :	5000 : 1 : COM.(7)(+) OUT.(6)(-)
	FAILURE CRITERIA: 10X	CHANGE IN ELECTRICAL PARAMETERS.					
172	4 : FAIRCHILD SEMI	74F04PC	8027	N/R	100 PF	1 : GN : PASS :	5000 : 1 : COM.(7)(+) OUT.(8)(-)
	FAILURE CRITERIA: 10X	CHANGE IN ELECTRICAL PARAMETERS.					
172	5 : FAIRCHILD SEMI	74F04PC	8027	N/R	100 PF	1 : GN : PASS :	5000 : 1 : COM.(7)(+) OUT.(10)(-)
	FAILURE CRITERIA: 10X	CHANGE IN ELECTRICAL PARAMETERS.					
172	6 : FAIRCHILD SEMI	74F04PC	8027	N/R	100 PF	1 : GN : FAIL :	5000 : 2 : COM.(7)(+) OUT.(12)(-)
	FAILURE CRITERIA: 10X	CHANGE IN ELECTRICAL PARAMETERS.					
172	7 : FAIRCHILD SEMI	74F04PC	8027	N/R	100 PF	1 : GN : PASS :	5000 : 1 : COM.(7)(+) VCC(-)
	FAILURE CRITERIA: 10X	CHANGE IN ELECTRICAL PARAMETERS.					
173	1 : FAIRCHILD SEMI	74F04PC	8027	N/R	100 PF	1 : GN : FAIL :	1250 : 2 : IN.(1)(+) COM.(7)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.						

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74F04

BUFFER/INVERTER, HEX

(CONTINUED)

173	:	2	:	FAIRCHILD SEMI	:	74F04PC	:	8027	:	N/R	:	1500	:	100 PF	:	1	:	GN	:	FAIL	:	1250	:	2	:	IN.(3)(+)	COM.(7)(-)
	:	FAILURE CRITERIA:	:	ELECTRICAL	:	PARAMETERS	:	OUT OF SPEC.	:		:		:		:		:		:		:		:		:		
173	:	3	:	FAIRCHILD SEMI	:	74F04PC	:	8027	:	N/R	:	1500	:	100 PF	:	1	:	GN	:	FAIL	:	1250	:	2	:	IN.(5)(+)	COM.(7)(-)
	:	FAILURE CRITERIA:	:	ELECTRICAL	:	PARAMETERS	:	OUT OF SPEC.	:		:		:		:		:		:		:		:		:		
173	:	4	:	FAIRCHILD SEMI	:	74F04PC	:	8027	:	N/R	:	1500	:	100 PF	:	1	:	GN	:	FAIL	:	1250	:	2	:	IN.(9)(+)	COM.(7)(-)
	:	FAILURE CRITERIA:	:	ELECTRICAL	:	PARAMETERS	:	OUT OF SPEC.	:		:		:		:		:		:		:		:		:		
173	:	5	:	FAIRCHILD SEMI	:	74F04PC	:	8027	:	N/R	:	1500	:	100 PF	:	1	:	GN	:	FAIL	:	1250	:	2	:	IN.(11)(+)	COM.(7)(-)
	:	FAILURE CRITERIA:	:	ELECTRICAL	:	PARAMETERS	:	OUT OF SPEC.	:		:		:		:		:		:		:		:		:		
173	:	6	:	FAIRCHILD SEMI	:	74F04PC	:	8027	:	N/R	:	1500	:	100 PF	:	1	:	GN	:	FAIL	:	1250	:	2	:	IN.(13)(+)	COM.(7)(-)
	:	FAILURE CRITERIA:	:	ELECTRICAL	:	PARAMETERS	:	OUT OF SPEC.	:		:		:		:		:		:		:		:		:		
173	:	7	:	FAIRCHILD SEMI	:	74F04PC	:	8027	:	N/R	:	1500	:	100 PF	:	1	:	GN	:	PASS	:	1250	:	2	:	COM.(7)(+)	OUT.(2)(-)
	:	FAILURE CRITERIA:	:	ELECTRICAL	:	PARAMETERS	:	OUT OF SPEC.	:		:		:		:		:		:		:		:		:		
173	:	8	:	FAIRCHILD SEMI	:	74F04PC	:	8027	:	N/R	:	1500	:	100 PF	:	1	:	GN	:	PASS	:	1250	:	2	:	COM.(7)(+)	OUT.(4)(-)
	:	FAILURE CRITERIA:	:	ELECTRICAL	:	PARAMETERS	:	OUT OF SPEC.	:		:		:		:		:		:		:		:		:		
173	:	9	:	FAIRCHILD SEMI	:	74F04PC	:	8027	:	N/R	:	1500	:	100 PF	:	1	:	GN	:	PASS	:	1250	:	2	:	COM.(7)(+)	OUT.(6)(-)
	:	FAILURE CRITERIA:	:	ELECTRICAL	:	PARAMETERS	:	OUT OF SPEC.	:		:		:		:		:		:		:		:		:		
173	:	10	:	FAIRCHILD SEMI	:	74F04PC	:	8027	:	N/R	:	1500	:	100 PF	:	1	:	GN	:	PASS	:	1250	:	2	:	COM.(7)(+)	OUT.(8)(-)
	:	FAILURE CRITERIA:	:	ELECTRICAL	:	PARAMETERS	:	OUT OF SPEC.	:		:		:		:		:		:		:		:		:		
173	:	11	:	FAIRCHILD SEMI	:	74F04PC	:	8027	:	N/R	:	1500	:	100 PF	:	1	:	GN	:	PASS	:	1250	:	2	:	COM.(7)(+)	OUT.(10)(-)
	:	FAILURE CRITERIA:	:	ELECTRICAL	:	PARAMETERS	:	OUT OF SPEC.	:		:		:		:		:		:		:		:		:		
173	:	12	:	FAIRCHILD SEMI	:	74F04PC	:	8027	:	N/R	:	1500	:	100 PF	:	1	:	GN	:	PASS	:	1250	:	2	:	COM.(7)(+)	OUT.(12)(-)
	:	FAILURE CRITERIA:	:	ELECTRICAL	:	PARAMETERS	:	OUT OF SPEC.	:		:		:		:		:		:		:		:		:		
173	:	13	:	FAIRCHILD SEMI	:	74F04PC	:	8027	:	N/R	:	1500	:	100 PF	:	1	:	GN	:	FAIL	:	1250	:	2	:	IN.(1)(+)	OUT.(2)(-)
	:	FAILURE CRITERIA:	:	ELECTRICAL	:	PARAMETERS	:	OUT OF SPEC.	:		:		:		:		:		:		:		:		:		
173	:	14	:	FAIRCHILD SEMI	:	74F04PC	:	8027	:	N/R	:	1500	:	100 PF	:	1	:	GN	:	FAIL	:	1250	:	2	:	IN.(3)(+)	OUT.(4)(-)
	:	FAILURE CRITERIA:	:	ELECTRICAL	:	PARAMETERS	:	OUT OF SPEC.	:		:		:		:		:		:		:		:		:		
173	:	15	:	FAIRCHILD SEMI	:	74F04PC	:	8027	:	N/R	:	1500	:	100 PF	:	1	:	GN									

TECHNOLOGY: ADVANCED STTL
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

SRC. : SEQ. :	MANUFACTURER	DATE :	TEST :	RES. :	CAP. :	NUMBER :	TEST :	NUM. :
CODE : NUM. :		CODE :	DATE :	(OHMS):		PULSES :	TYPE :	VOLTAGE : DEV. :
(CONTINUED)								
74F04	BUFFER/INVERTER , HEX							
174 :	7 : FAIRCHILD SEMI : 74FO4PC	8027 :	N/R :	1500 :	100 PF :	1 :	GN :	5000 :
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.							2 : COM.(7)(+) VCC(-)
175 :	1 : FAIRCHILD SEMI : 74FO4PC	8027 :	AUG 81 :	1500 :	100 PF :	1 :	GN :	1000 :
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.							2 : IN.(1)(+) COM.(7)(-)
176 :	1 : FAIRCHILD SEMI : 74FO4PC	8027 :	N/R :	1500 :	100 PF :	1 :	GN :	1000 :
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.							2 : IN.(1)(+) COM.(7)(-)
177 :	1 : FAIRCHILD SEMI : 74FO4PC	8027 :	N/R :	1500 :	100 PF :	1 :	GN :	1000 :
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.							2 : IN.(1)(+) COM.(7)(-)
178 :	1 : FAIRCHILD SEMI : 74FO4PC	8027 :	SEP 81 :	1500 :	100 PF :	1 :	SS :	400 :
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.							1 : IN.(1)(+) APTT(-)
178 :	2 : FAIRCHILD SEMI : 74FO4PC	8027 :	SEP 81 :	1500 :	100 PF :	1 :	SS :	300 :
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.							1 : IN.(3)(+) APTT(-)
178 :	3 : FAIRCHILD SEMI : 74FO4PC	8027 :	SEP 81 :	1500 :	100 PF :	1 :	SS :	400 :
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.							1 : IN.(5)(+) APTT(-)
178 :	4 : FAIRCHILD SEMI : 74FO4PC	8027 :	SEP 81 :	1500 :	100 PF :	1 :	SS :	300 :
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.							1 : IN.(9)(+) APTT(-)
178 :	5 : FAIRCHILD SEMI : 74FO4PC	8027 :	SEP 81 :	1500 :	100 PF :	1 :	SS :	100 :
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.							1 : IN.(11)(+) APTT(-)
178 :	6 : FAIRCHILD SEMI : 74FO4PC	8027 :	SEP 81 :	1500 :	100 PF :	1 :	SS :	400 :
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.							1 : IN.(13)(+) APTT(-)
178 :	7 : FAIRCHILD SEMI : 74FO4PC	8027 :	SEP 81 :	1500 :	100 PF :	1 :	SS :	1250 :
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.							1 : OUT.(2)(+) APTT(-)
178 :	8 : FAIRCHILD SEMI : 74FO4PC	8027 :	SEP 81 :	1500 :	100 PF :	1 :	SS :	1250 :
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.							1 : OUT.(4)(+) APTT(-)
178 :	9 : FAIRCHILD SEMI : 74FO4PC	8027 :	SEP 81 :	1500 :	100 PF :	1 :	SS :	1250 :
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.							1 : OUT.(6)(+) APTT(-)
178 :	10 : FAIRCHILD SEMI : 74FO4PC	8027 :	SEP 81 :	1500 :	100 PF :	1 :	SS :	1250 :
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.							1 : OUT.(8)(+) APTT(-)
178 :	11 : FAIRCHILD SEMI : 74FO4PC	8027 :	SEP 81 :	1500 :	100 PF :	1 :	SS :	1250 :
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.							1 : OUT.(10)(+) APTT(-)
178 :	12 : FAIRCHILD SEMI : 74FO4PC	8027 :	SEP 81 :	1500 :	100 PF :	1 :	SS :	1250 :
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.							1 : OUT.(12)(+) APTT(-)
178 :	13 : FAIRCHILD SEMI : 74FO4PC	8027 :	SEP 81 :	1500 :	100 PF :	1 :	SS :	1250 :
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.							1 : VCC(14)(+) APTT(-)
179 :	1 : FAIRCHILD SEMI : 74FO4PC	8027 :	N/R :	1500 :	100 PF :	1 :	SS :	200 :
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.							1 : IN.(1)(+) APTT(-)
179 :	2 : FAIRCHILD SEMI : 74FO4PC	8027 :	N/R :	1500 :	100 PF :	1 :	SS :	200 :
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.							1 : IN.(3)(+) APTT(-)
179 :	3 : FAIRCHILD SEMI : 74FO4PC	8027 :	N/R :	1500 :	100 PF :	1 :	SS :	200 :
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.							1 : IN.(5)(+) APTT(-)
179 :	4 : FAIRCHILD SEMI : 74FO4PC	8027 :	N/R :	1500 :	100 PF :	1 :	SS :	400 :
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.							1 : IN.(9)(+) APTT(-)
179 :	5 : FAIRCHILD SEMI : 74FO4PC	8027 :	N/R :	1500 :	100 PF :	1 :	SS :	600 :
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.							1 : IN.(11)(+) APTT(-)
179 :	6 : FAIRCHILD SEMI : 74FO4PC	8027 :	N/R :	1500 :	100 PF :	1 :	SS :	500 :
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.							1 : IN.(13)(+) APTT(-)
179 :	7 : FAIRCHILD SEMI : 74FO4PC	8027 :	N/R :	1500 :	100 PF :	1 :	SS :	5000 :
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.							1 : OUT.(2)(+) APTT(-)

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74F04 BUFFER/INVERTER . HEX

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TECHNOLOGY: ADVANCED STTL
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

SRC.: SEQ.:
CODE: NUM.: MANUFACTURER: FULL PART NUM.: DATE: TEST: RES.: NUMBER: TEST: : NUM.:
CAP.: PULSES: TYPE: RESULT: VOLTAGE: DEV.: PIN COMINATION

74F04 BUFFER/INVERTER, HEX

181 : 6 : FAIRCHILD SEMI : 74F04PC : 8027 : SEP 81 : 1500 : 100 PF : 1 : SS : FAIL : 1250 : 1 : IN.(13)(+)
REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING
FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.
181 : 7 : FAIRCHILD SEMI : 74F04PC : 8027 : SEP 81 : 1500 : 100 PF : 1 : SS : PASS : 1250 : 1 : OUT.(2)(+)
REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING
FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.
181 : 8 : FAIRCHILD SEMI : 74F04PC : 8027 : SEP 81 : 1500 : 100 PF : 1 : SS : PASS : 1250 : 1 : OUT.(4)(+)
REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING
FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.
181 : 9 : FAIRCHILD SEMI : 74F04PC : 8027 : SEP 81 : 1500 : 100 PF : 1 : SS : PASS : 1250 : 1 : OUT.(6)(+)
REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING
FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.
181 : 10 : FAIRCHILD SEMI : 74F04PC : 8027 : SEP 81 : 1500 : 100 PF : 1 : SS : PASS : 1250 : 1 : OUT.(8)(+)
REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING
FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.
181 : 11 : FAIRCHILD SEMI : 74F04PC : 8027 : SEP 81 : 1500 : 100 PF : 1 : SS : PASS : 1250 : 1 : OUT.(10)(+)
REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING
FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.
181 : 12 : FAIRCHILD SEMI : 74F04PC : 8027 : SEP 81 : 1500 : 100 PF : 1 : SS : PASS : 1250 : 1 : OUT.(12)(+)
REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING
FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.
181 : 13 : FAIRCHILD SEMI : 74F04PC : 8027 : SEP 81 : 1500 : 100 PF : 1 : SS : PASS : 1250 : 1 : VCC(14)(+)
REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING
FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.
182 : 1 : FAIRCHILD SEMI : 74F04PC : 8027 : N/A : 1500 : 100 PF : 1 : SS : FAIL : 1800 : 1 : IN.(1)(+)
REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING
FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.
182 : 2 : FAIRCHILD SEMI : 74F04PC : 8027 : N/A : 1500 : 100 PF : 1 : SS : FAIL : 800 : 1 : IN.(3)(+)
REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING
FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.
182 : 3 : FAIRCHILD SEMI : 74F04PC : 8027 : N/A : 1500 : 100 PF : 1 : SS : FAIL : 700 : 1 : IN.(5)(+)
REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING
FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.
182 : 4 : FAIRCHILD SEMI : 74F04PC : 8027 : N/A : 1500 : 100 PF : 1 : SS : FAIL : 1800 : 1 : IN.(9)(+)
REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING
FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.
182 : 5 : FAIRCHILD SEMI : 74F04PC : 8027 : N/A : 1500 : 100 PF : 1 : SS : FAIL : 1400 : 1 : IN.(11)(+)
REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING
FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.
182 : 6 : FAIRCHILD SEMI : 74F04PC : 8027 : N/A : 1500 : 100 PF : 1 : SS : FAIL : 1400 : 1 : IN.(13)(+)
REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING
FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.
182 : 7 : FAIRCHILD SEMI : 74F04PC : 8027 : N/A : 1500 : 100 PF : 1 : SS : FAIL : 5000 : 1 : OUT.(2)(+)
REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING
FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.
182 : 8 : FAIRCHILD SEMI : 74F04PC : 8027 : N/A : 1500 : 100 PF : 1 : SS : FAIL : 5000 : 1 : OUT.(4)(+)
REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING
FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.
182 : 9 : FAIRCHILD SEMI : 74F04PC : 8027 : N/A : 1500 : 100 PF : 1 : SS : PASS : 5000 : 1 : OUT.(6)(+)
REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING
FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.
182 : 10 : FAIRCHILD SEMI : 74F04PC : 8027 : N/A : 1500 : 100 PF : 1 : SS : PASS : 5000 : 1 : OUT.(8)(+)
REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING
FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.
182 : 11 : FAIRCHILD SEMI : 74F04PC : 8027 : N/A : 1500 : 100 PF : 1 : SS : PASS : 5000 : 1 : OUT.(10)(+)
REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING
FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.
182 : 12 : FAIRCHILD SEMI : 74F04PC : 8027 : N/A : 1500 : 100 PF : 1 : SS : PASS : 5000 : 1 : OUT.(12)(+)
REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING
FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.
182 : 13 : FAIRCHILD SEMI : 74F04PC : 8027 : N/A : 1500 : 100 PF : 1 : SS : PASS : 5000 : 1 : VCC(14)(+)
REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING
FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.
183 : 1 : FAIRCHILD SEMI : 74F04PC : 8027 : N/A : 1500 : 100 PF : 1 : SS : FAIL : 3000 : 1 : IN.(1)(+)
REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING
FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.
183 : 2 : FAIRCHILD SEMI : 74F04PC : 8027 : N/A : 1500 : 100 PF : 1 : SS : FAIL : 2200 : 1 : IN.(3)(+)
REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING
FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.
183 : 3 : FAIRCHILD SEMI : 74F04PC : 8027 : N/A : 1500 : 100 PF : 1 : SS : FAIL : 2200 : 1 : IN.(5)(+)
REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING
FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.

TECHNOLOGY: ADVANCED STTL
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

SEC. : SEQ. :	DATE :	TEST :	RES. :	NUMBER :	TEST :	NUM. :
CODE : NUM. :	MANUFACTURER :	FULL PART NUM. :	CODE : DATE :	CAP. :	PULSES : TYPE :	VOLTADE : DEV. :
74F04	BUFFER/INVERTER , HEX	(CONTINUED)				
183	4 : FAIRCHILD SEMI	8027 : N/R	1500 :	100 PF :	1 : SS :	FAIL : 1400 : 1 : IN.(9)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING			FAILURE CRITERIA:	ELECTRICAL PARAMETERS	OUT OF SPEC.
183	5 : FAIRCHILD SEMI	8027 : N/R	1500 :	100 PF :	1 : SS :	FAIL : 900 : 1 : IN.(11)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING			FAILURE CRITERIA:	ELECTRICAL PARAMETERS	OUT OF SPEC.
183	6 : FAIRCHILD SEMI	8027 : N/R	1500 :	100 PF :	1 : SS :	FAIL : 900 : 1 : IN.(13)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING			FAILURE CRITERIA:	ELECTRICAL PARAMETERS	OUT OF SPEC.
183	7 : FAIRCHILD SEMI	8027 : N/R	1500 :	100 PF :	1 : SS :	PASS : 5000 : 1 : OUT.(2)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING			FAILURE CRITERIA:	ELECTRICAL PARAMETERS	OUT OF SPEC.
183	8 : FAIRCHILD SEMI	8027 : N/R	1500 :	100 PF :	1 : SS :	PASS : 5000 : 1 : OUT.(4)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING			FAILURE CRITERIA:	ELECTRICAL PARAMETERS	OUT OF SPEC.
183	9 : FAIRCHILD SEMI	8027 : N/R	1500 :	100 PF :	1 : SS :	PASS : 5000 : 1 : OUT.(6)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING			FAILURE CRITERIA:	ELECTRICAL PARAMETERS	OUT OF SPEC.
183	10 : FAIRCHILD SEMI	8027 : N/R	1500 :	100 PF :	1 : SS :	PASS : 5000 : 1 : OUT.(8)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING			FAILURE CRITERIA:	ELECTRICAL PARAMETERS	OUT OF SPEC.
183	11 : FAIRCHILD SEMI	8027 : N/R	1500 :	100 PF :	1 : SS :	PASS : 5000 : 1 : OUT.(10)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING			FAILURE CRITERIA:	ELECTRICAL PARAMETERS	OUT OF SPEC.
183	12 : FAIRCHILD SEMI	8027 : N/R	1500 :	100 PF :	1 : SS :	PASS : 5000 : 1 : OUT.(12)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING			FAILURE CRITERIA:	ELECTRICAL PARAMETERS	OUT OF SPEC.
183	13 : FAIRCHILD SEMI	8027 : N/R	1500 :	100 PF :	1 : SS :	PASS : 5000 : 1 : VCC(14)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING			FAILURE CRITERIA:	ELECTRICAL PARAMETERS	OUT OF SPEC.
184	1 : FAIRCHILD SEMI	8027 : SEP 81	1500 :	100 PF :	10 : SS :	FAIL : 60 : 1 : IN.(11)(+) APTT(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.					
184	2 : FAIRCHILD SEMI	8027 : SEP 81	1500 :	100 PF :	300 : SS :	FAIL : 60 : 3 : IN.(11)(+) APTT(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.					
184	3 : FAIRCHILD SEMI	8027 : SEP 81	1500 :	100 PF :	100 : SS :	PASS : 60 : 1 : IN.(11)(+) APTT(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.					
185	1 : FAIRCHILD SEMI	8027 : N/R	1500 :	100 PF :	30 : GN :	FAIL : 60 : 5 : IN.(1)(+) APTT(-)
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.					
186	1 : FAIRCHILD SEMI	8027 : N/R	1500 :	100 PF :	10 : GN :	FAIL : 120 : 7 : IN.(1)(+) APTT(-)
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.					
186	2 : FAIRCHILD SEMI	8027 : N/R	1500 :	100 PF :	100 : GN :	FAIL : 120 : 1 : IN.(1)(+) APTT(-)
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.					
187	1 : FAIRCHILD SEMI	8027 : N/R	1500 :	100 PF :	300 : SS :	PASS : 160 : 1 : IN.(1)(+) APTT(-)
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.					
188	1 : FAIRCHILD SEMI	8027 : N/R	1500 :	100 PF :	10 : GN :	FAIL : 160 : 4 : IN.(1)(+) APTT(-)
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.					
189	1 : FAIRCHILD SEMI	8027 : N/R	1500 :	100 PF :	30 : SS :	FAIL : 240 : 1 : IN.(9)(+) APTT(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.					
189	2 : FAIRCHILD SEMI	8027 : N/R	1500 :	100 PF :	300 : SS :	FAIL : 240 : 1 : IN.(9)(+) APTT(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.					
189	3 : FAIRCHILD SEMI	8027 : N/R	1500 :	100 PF :	300 : SS :	PASS : 240 : 3 : IN.(9)(+) APTT(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.					
190	1 : FAIRCHILD SEMI	8027 : SEP 81	1500 :	100 PF :	300 : SS :	FAIL : 480 : 2 : IN.(5)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING			FAILURE CRITERIA:	ELECTRICAL PARAMETERS	OUT OF SPEC.
190	2 : FAIRCHILD SEMI	8027 : SEP 81	1500 :	100 PF :	30 : SS :	PASS : 480 : 1 : IN.(5)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING			FAILURE CRITERIA:	ELECTRICAL PARAMETERS	OUT OF SPEC.
191	1 : FAIRCHILD SEMI	8027 : SEP 81	1500 :	100 PF :	300 : SS :	PASS : 640 : 1 : IN.(5)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING			FAILURE CRITERIA:	ELECTRICAL PARAMETERS	OUT OF SPEC.

[illegible]

: SEQ.	:	DATE	:	TEST	:	RES.	:	NUMBER	:	TEST	:	NUM.	:
: CODE	:	MANUFACTURER	:	FULL PART NUM.	:	CODE	:	DATE	:	(OHMS)	:	CAP.	:
: NH.	:	PULSES	:	TYPE	:	RESULT	:	VOLTAGE	:	DEV.	:	PIN COMBINATION	:

(CONTINUED)

74F04 BUFFER/INVERTER, HEX

[illegible]

74F175 FLIP-FLOP : QUAD D

198	:	1	:	FAIRCHILD SEMI	:	74F175PC	:	8125	:	AUG 81	:	1500	:	100 PF	:	1	:	GN	:	PASS	:	1250	:	1	:	IN.(1)(+)	COM.(8)(-)
		FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.																									
198	:	2	:	FAIRCHILD SEMI	:	74F175PC	:	8125	:	AUG 81	:	1500	:	100 PF	:	1	:	GN	:	PASS	:	1250	:	1	:	IN.(4)(+)	COM.(8)(-)
		FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.																									
198	:	3	:	FAIRCHILD SEMI	:	74F175PC	:	8125	:	AUG 81	:	1500	:	100 PF	:	1	:	GN	:	FAIL	:	1250	:	2	:	IN.(5)(+)	COM.(8)(-)
		FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.																									
198	:	4	:	FAIRCHILD SEMI	:	74F175PC	:	8125	:	AUG 81	:	1500	:	100 PF	:	1	:	GN	:	FAIL	:	1250	:	2	:	IN.(9)(+)	COM.(8)(-)
		FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.																									
198	:	5	:	FAIRCHILD SEMI	:	74F175PC	:	8125	:	AUG 81	:	1500	:	100 PF	:	1	:	GN	:	PASS	:	1250	:	1	:	IN.(12)(+)	COM.(8)(-)
		FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.																									
198	:	6	:	FAIRCHILD SEMI	:	74F175PC	:	8125	:	AUG 81	:	1500	:	100 PF	:	1	:	GN	:	PASS	:	1250	:	1	:	IN.(13)(+)	COM.(8)(-)
		FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.																									
198	:	7	:	FAIRCHILD SEMI	:	74F175PC	:	8125	:	AUG 81	:	1500	:	100 PF	:	1	:	GN	:	PASS	:	1250	:	1	:	OUT.(2)(+)	COM.(8)(-)
		FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.																									
198	:	8	:	FAIRCHILD SEMI	:	74F175PC	:	8125	:	AUG 81	:	1500	:	100 PF	:	1	:	GN	:	PASS	:	1250	:	1	:	OUT.(3)(+)	COM.(8)(-)
		FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.																									
198	:	9	:	FAIRCHILD SEMI	:	74F175PC	:	8125	:	AUG 81	:	1500	:	100 PF	:	1	:	GN	:	PASS	:	1250	:	1	:	OUT.(6)(+)	COM.(8)(-)
		FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.																									
198	:	10	:	FAIRCHILD SEMI	:	74F175PC	:	8125	:	AUG 81	:	1500	:	100 PF	:	1	:	GN	:	PASS	:	1250	:	1	:	OUT.(7)(+)	COM.(8)(-)
		FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.																									
198	:	11	:	FAIRCHILD SEMI	:	74F175PC	:	8125	:	AUG 81	:	1500	:	100 PF	:	1	:	GN	:	PASS	:	1250	:	1	:	OUT.(10)(+)	COM.(8)(-)
		FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.																									
198	:	12	:	FAIRCHILD SEMI	:	74F175PC	:	8125	:	AUG 81	:	1500	:	100 PF	:	1	:	GN	:	PASS	:	1250	:	1	:	OUT.(11)(+)	COM.(8)(-)
		FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.																									
198	:	13	:	FAIRCHILD SEMI	:	74F175PC	:	8125	:	AUG 81	:	1500	:	100 PF	:	1	:	GN	:	PASS	:	1250	:	1	:	OUT.(14)(+)	COM.(8)(-)
		FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.																									
198	:	14	:	FAIRCHILD SEMI	:	74F175PC	:	8125	:	AUG 81	:	1500	:	100 PF	:	1	:	GN	:	PASS	:	1250	:	1	:	OUT.(15)(+)	COM.(8)(-)
		FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.																									
198	:	15	:	FAIRCHILD SEMI	:	74F175PC	:	8125	:	AUG 81	:	1500	:	100 PF	:	1	:	GN	:	PASS	:	1250	:	1	:	IN.(4)(+)	OUT.(2)(-)
		FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.																									

TECHNOLOGY: ADVANCED STTL
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

SEC. : SEQ. : CODE : NUM. :	MANUFACTURER	FULL PART NUM. :	DATE : TEST : RES. : : CODE : (OIRIS) :	CAP. :	NUMBER : TEST : PULSES : TYPE : RESULT :	VOLTAGE : DEV. : :	NUM. : PIN COMBINATION
74F175	FLIP-FLOP, QUAD D						
198	16 : FAIRCHILD SEMI	74F175PC	8125 : AUG 81 : 1500 :	100 PF :	1 : GN : PASS :	1250 :	1 : IN.(4)(+) OUT.(3)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.						
198	17 : FAIRCHILD SEMI	74F175PC	8125 : AUG 81 : 1500 :	100 PF :	1 : GN : FAIL :	1250 :	2 : IN.(5)(+) OUT.(6)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.						
198	18 : FAIRCHILD SEMI	74F175PC	8125 : AUG 81 : 1500 :	100 PF :	1 : GN : PASS :	1250 :	1 : IN.(5)(+) OUT.(7)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.						
198	19 : FAIRCHILD SEMI	74F175PC	8125 : AUG 81 : 1500 :	100 PF :	1 : GN : FAIL :	1250 :	2 : IN.(12)(+) OUT.(10)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.						
198	20 : FAIRCHILD SEMI	74F175PC	8125 : AUG 81 : 1500 :	100 PF :	1 : GN : FAIL :	1250 :	1 : IN.(12)(+) OUT.(11)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.						
198	21 : FAIRCHILD SEMI	74F175PC	8125 : AUG 81 : 1500 :	100 PF :	1 : GN : PASS :	1250 :	1 : IN.(12)(+) OUT.(11)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.						
198	22 : FAIRCHILD SEMI	74F175PC	8125 : AUG 81 : 1500 :	100 PF :	1 : GN : PASS :	1250 :	1 : IN.(13)(+) OUT.(14)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.						
198	23 : FAIRCHILD SEMI	74F175PC	8125 : AUG 81 : 1500 :	100 PF :	1 : GN : FAIL :	1250 :	1 : IN.(13)(+) OUT.(15)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.						
198	24 : FAIRCHILD SEMI	74F175PC	8125 : AUG 81 : 1500 :	100 PF :	1 : GN : PASS :	1250 :	1 : IN.(13)(+) OUT.(15)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.						
198	25 : FAIRCHILD SEMI	74F175PC	8125 : AUG 81 : 1500 :	100 PF :	1 : GN : PASS :	1250 :	2 : VCC(16)(+) COM.(8)(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.						
199	1 : FAIRCHILD SEMI	74F175PC	8125 : N/R :	100 PF :	1 : GN : PASS :	1250 :	1 : IN.(4)(+) COM.(8)(-)
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.						
199	2 : FAIRCHILD SEMI	74F175PC	8125 : N/R :	100 PF :	1 : GN : FAIL :	1250 :	2 : IN.(1)(+) OUT.(2)(-)
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.						
200	1 : FAIRCHILD SEMI	74F175PC	8125 : N/R :	100 PF :	1 : GN : FAIL :	5000 :	2 : IN.(1)(+) COM.(8)(-)
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.						
200	2 : FAIRCHILD SEMI	74F175PC	8125 : N/R :	100 PF :	1 : GN : FAIL :	5000 :	2 : IN.(4)(+) COM.(8)(-)
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.						
200	3 : FAIRCHILD SEMI	74F175PC	8125 : N/R :	100 PF :	1 : GN : FAIL :	5000 :	2 : IN.(5)(+) COM.(8)(-)
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.						
200	4 : FAIRCHILD SEMI	74F175PC	8125 : N/R :	100 PF :	1 : GN : FAIL :	5000 :	2 : IN.(9)(+) COM.(8)(-)
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.						
200	5 : FAIRCHILD SEMI	74F175PC	8125 : N/R :	100 PF :	1 : GN : FAIL :	5000 :	2 : IN.(12)(+) COM.(8)(-)
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.						
200	6 : FAIRCHILD SEMI	74F175PC	8125 : N/R :	100 PF :	1 : GN : FAIL :	5000 :	2 : IN.(13)(+) COM.(8)(-)
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.						
200	7 : FAIRCHILD SEMI	74F175PC	8125 : N/R :	100 PF :	1 : GN : PASS :	5000 :	1 : OUT.(2)(+) COM.(8)(-)
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.						
200	8 : FAIRCHILD SEMI	74F175PC	8125 : N/R :	100 PF :	1 : GN : PASS :	5000 :	1 : OUT.(3)(+) COM.(8)(-)
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.						
200	9 : FAIRCHILD SEMI	74F175PC	8125 : N/R :	100 PF :	1 : GN : PASS :	5000 :	1 : OUT.(6)(+) COM.(8)(-)
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.						
200	10 : FAIRCHILD SEMI	74F175PC	8125 : N/R :	100 PF :	1 : GN : PASS :	5000 :	1 : OUT.(7)(+) COM.(8)(-)
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.						
200	11 : FAIRCHILD SEMI	74F175PC	8125 : N/R :	100 PF :	1 : GN : PASS :	5000 :	1 : OUT.(10)(+) COM.(8)(-)
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.						
200	12 : FAIRCHILD SEMI	74F175PC	8125 : N/R :	100 PF :	1 : GN : PASS :	5000 :	1 : OUT.(11)(+) COM.(8)(-)
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.						

TECHNOLOGY: ADVANCED STTL
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

SEC. : SEQ. : CODE : NUM. :	MANUFACTURER	DATE : TEST : RES. :	CAP. : PULSES : TYPE : RESULT : VOLTAGE : DEV. :	NUM. : PIN COMBINATION
74F175	FLIP-FLOP, QUAD D			
200	13 : FAIRCHILD SEMI	74F175PC : 8125 : N/R : 1500 : 100 PF : 1 : GN : PASS : 5000 : 1 : OUT.(14)(+) COM.(8)(-)		
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.			
200	14 : FAIRCHILD SEMI	74F175PC : 8125 : N/R : 1500 : 100 PF : 1 : GN : PASS : 5000 : 1 : OUT.(15)(+) COM.(8)(-)		
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.			
200	15 : FAIRCHILD SEMI	74F175PC : 8125 : N/R : 1500 : 100 PF : 1 : GN : FAIL : 5000 : 2 : IN.(4)(+) OUT.(2)(-)		
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.			
200	16 : FAIRCHILD SEMI	74F175PC : 8125 : N/R : 1500 : 100 PF : 1 : GN : FAIL : 5000 : 2 : IN.(5)(+) OUT.(7)(-)		
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.			
200	17 : FAIRCHILD SEMI	74F175PC : 8125 : N/R : 1500 : 100 PF : 1 : GN : FAIL : 5000 : 2 : IN.(9)(+) OUT.(2)(-)		
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.			
200	18 : FAIRCHILD SEMI	74F175PC : 8125 : N/R : 1500 : 100 PF : 1 : GN : FAIL : 5000 : 2 : IN.(12)(+) OUT.(11)(-)		
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.			
200	19 : FAIRCHILD SEMI	74F175PC : 8125 : N/R : 1500 : 100 PF : 1 : GN : FAIL : 5000 : 2 : IN.(13)(+) OUT.(14)(-)		
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.			
200	20 : FAIRCHILD SEMI	74F175PC : 8125 : N/R : 1500 : 100 PF : 1 : GN : PASS : 5000 : 1 : VCC(16)(+) COM.(8)(-)		
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.			
201	1 : FAIRCHILD SEMI	74F175PC : 8125 : N/R : 1500 : 100 PF : 1 : GN : FAIL : 1250 : 2 : IN.(2)(+) COM.(8)(-)		
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.			
201	2 : FAIRCHILD SEMI	74F175PC : 8125 : N/R : 1500 : 100 PF : 1 : GN : PASS : 1250 : 2 : IN.(4)(+) COM.(8)(-)		
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.			
201	3 : FAIRCHILD SEMI	74F175PC : 8125 : N/R : 1500 : 100 PF : 1 : GN : PASS : 1250 : 2 : IN.(5)(+) COM.(8)(-)		
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.			
201	4 : FAIRCHILD SEMI	74F175PC : 8125 : N/R : 1500 : 100 PF : 1 : GN : PASS : 1250 : 2 : IN.(9)(+) COM.(8)(-)		
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.			
201	5 : FAIRCHILD SEMI	74F175PC : 8125 : N/R : 1500 : 100 PF : 1 : GN : PASS : 1250 : 2 : IN.(12)(+) COM.(8)(-)		
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.			
201	6 : FAIRCHILD SEMI	74F175PC : 8125 : N/R : 1500 : 100 PF : 1 : GN : PASS : 1250 : 1 : IN.(13)(+) COM.(8)(-)		
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.			
201	7 : FAIRCHILD SEMI	74F175PC : 8125 : N/R : 1500 : 100 PF : 1 : GN : FAIL : 1250 : 1 : IN.(13)(+) COM.(8)(-)		
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.			
201	8 : FAIRCHILD SEMI	74F175PC : 8125 : N/R : 1500 : 100 PF : 1 : GN : PASS : 1250 : 2 : OUT.(2)(+) COM.(8)(-)		
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.			
201	9 : FAIRCHILD SEMI	74F175PC : 8125 : N/R : 1500 : 100 PF : 1 : GN : PASS : 1250 : 2 : OUT.(3)(+) COM.(8)(-)		
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.			
201	10 : FAIRCHILD SEMI	74F175PC : 8125 : N/R : 1500 : 100 PF : 1 : GN : PASS : 1250 : 2 : OUT.(6)(+) COM.(8)(-)		
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.			
201	11 : FAIRCHILD SEMI	74F175PC : 8125 : N/R : 1500 : 100 PF : 1 : GN : PASS : 1250 : 2 : OUT.(7)(+) COM.(8)(-)		
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.			
201	12 : FAIRCHILD SEMI	74F175PC : 8125 : N/R : 1500 : 100 PF : 1 : GN : PASS : 1250 : 2 : OUT.(10)(+) COM.(8)(-)		
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.			
201	13 : FAIRCHILD SEMI	74F175PC : 8125 : N/R : 1500 : 100 PF : 1 : GN : PASS : 1250 : 2 : OUT.(11)(+) COM.(8)(-)		
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.			
201	14 : FAIRCHILD SEMI	74F175PC : 8125 : N/R : 1500 : 100 PF : 1 : GN : PASS : 1250 : 2 : OUT.(14)(+) COM.(8)(-)		
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.			
201	15 : FAIRCHILD SEMI	74F175PC : 8125 : N/R : 1500 : 100 PF : 1 : GN : PASS : 1250 : 2 : OUT.(15)(+) COM.(8)(-)		
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.			
201	16 : FAIRCHILD SEMI	74F175PC : 8125 : N/R : 1500 : 100 PF : 1 : GN : FAIL : 1250 : 2 : IN.(1)(+) OUT.(2)(-)		
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.			

TECHNOLOGY: ADVANCED STIL
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

SEC. : SEQ. :	DATE :	TEST :	RES. :	CAP. :	NUMBER :	TEST :	NUM. :						
CODE : NUM. :	MANUFACTURER :	FULL PART NUM. :	CODE :	DATE :	TEST :	RES. :	CAP. :	PULSES :	TYPE :	RESULT :	VOLTAGE :	DEV. :	PIN COMBINATION :
(CONTINUED)													
74F175	FLIP-FLOP , QUAD D												
201	17 : FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	GN	PASS	1250	2	IN.(4)(+) OUT.(2)(-)	
	FAILURE CRITERIA: ELECTRICAL	PARAMETERS OUT OF SPEC.											
201	18 : FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	GN	PASS	1250	2	IN.(5)(+) OUT.(7)(-)	
	FAILURE CRITERIA: ELECTRICAL	PARAMETERS OUT OF SPEC.											
201	19 : FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	GN	FAIL	1250	1	IN.(9)(+) OUT.(7)(-)	
	FAILURE CRITERIA: ELECTRICAL	PARAMETERS OUT OF SPEC.											
201	20 : FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	GN	PASS	1250	1	IN.(9)(+) OUT.(7)(-)	
	FAILURE CRITERIA: ELECTRICAL	PARAMETERS OUT OF SPEC.											
201	21 : FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	GN	PASS	1250	2	IN.(12)(+) OUT.(10)(-)	
	FAILURE CRITERIA: ELECTRICAL	PARAMETERS OUT OF SPEC.											
201	22 : FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	GN	PASS	1250	2	IN.(13)(+) OUT.(15)(-)	
	FAILURE CRITERIA: ELECTRICAL	PARAMETERS OUT OF SPEC.											
201	23 : FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	GN	PASS	1250	2	VOL(16)(+) COM.(8)(-)	
	FAILURE CRITERIA: ELECTRICAL	PARAMETERS OUT OF SPEC.											
202	1 : FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	GN	FAIL	5000	2	IN.(4)(+) COM.(8)(-)	
	FAILURE CRITERIA: ELECTRICAL	PARAMETERS OUT OF SPEC.											
202	2 : FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	GN	FAIL	5000	2	IN.(5)(+) COM.(8)(-)	
	FAILURE CRITERIA: ELECTRICAL	PARAMETERS OUT OF SPEC.											
202	3 : FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	GN	FAIL	5000	2	IN.(9)(+) COM.(8)(-)	
	FAILURE CRITERIA: ELECTRICAL	PARAMETERS OUT OF SPEC.											
202	4 : FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	GN	FAIL	5000	2	IN.(12)(+) COM.(8)(-)	
	FAILURE CRITERIA: ELECTRICAL	PARAMETERS OUT OF SPEC.											
202	5 : FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	GN	FAIL	5000	1	IN.(13)(+) COM.(8)(-)	
	FAILURE CRITERIA: ELECTRICAL	PARAMETERS OUT OF SPEC.											
202	6 : FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	GN	PASS	5000	2	OUT.(2)(+) COM.(8)(-)	
	FAILURE CRITERIA: ELECTRICAL	PARAMETERS OUT OF SPEC.											
202	7 : FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	GN	PASS	5000	2	OUT.(3)(+) COM.(8)(-)	
	FAILURE CRITERIA: ELECTRICAL	PARAMETERS OUT OF SPEC.											
202	8 : FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	GN	PASS	5000	2	OUT.(6)(+) COM.(8)(-)	
	FAILURE CRITERIA: ELECTRICAL	PARAMETERS OUT OF SPEC.											
202	9 : FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	GN	PASS	5000	2	OUT.(7)(+) COM.(8)(-)	
	FAILURE CRITERIA: ELECTRICAL	PARAMETERS OUT OF SPEC.											
202	10 : FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	GN	PASS	5000	2	OUT.(10)(+) COM.(8)(-)	
	FAILURE CRITERIA: ELECTRICAL	PARAMETERS OUT OF SPEC.											
202	11 : FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	GN	PASS	5000	2	OUT.(11)(+) COM.(8)(-)	
	FAILURE CRITERIA: ELECTRICAL	PARAMETERS OUT OF SPEC.											
202	12 : FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	GN	PASS	5000	2	OUT.(14)(+) COM.(8)(-)	
	FAILURE CRITERIA: ELECTRICAL	PARAMETERS OUT OF SPEC.											
202	13 : FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	GN	PASS	5000	2	OUT.(15)(+) COM.(8)(-)	
	FAILURE CRITERIA: ELECTRICAL	PARAMETERS OUT OF SPEC.											
202	14 : FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	GN	FAIL	5000	2	IN.(4)(+) OUT.(2)(-)	
	FAILURE CRITERIA: ELECTRICAL	PARAMETERS OUT OF SPEC.											
202	15 : FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	GN	FAIL	5000	2	IN.(5)(+) OUT.(7)(-)	
	FAILURE CRITERIA: ELECTRICAL	PARAMETERS OUT OF SPEC.											
202	16 : FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	GN	FAIL	5000	1	IN.(9)(+) OUT.(7)(-)	
	FAILURE CRITERIA: ELECTRICAL	PARAMETERS OUT OF SPEC.											
202	17 : FAIRCHILD SEMI	74F175PC	8125	N/R	1500	100 PF	1	GN	FAIL	5000	2	IN.(12)(+) OUT.(10)(-)	
	FAILURE CRITERIA: ELECTRICAL	PARAMETERS OUT OF SPEC.											

TECHNOLOGY: ADVANCED STTL
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

SAC. : SEQ. :	MANUFACTURER	DATE	TEST	RES.	CAP.	PULSES	TYPE	TEST	NUM. :	VOLTAGE :	DEV.	PLN	COMBINATION
CODE : NUM. :		CODE	DATE	(OINS)									
74F175	FLIP-FLOP, QUAD D												
202	18 : FAIRCHILD SEMI	8125	N/R	1500	100 PF	1	GN	FAIL	5000	2	IN.(13)(+)	OUT.(15)(-)	
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
202	19 : FAIRCHILD SEMI	8125	N/R	1500	100 PF	1	GN	PASS	5000	2	VCC(16)(+)	COM.(8)(-)	
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
203	1 : FAIRCHILD SEMI	8125	AUG 81	1500	100 PF	1	GN	FAIL	1000	2	IN.(5)(+)	COM.(8)(-)	
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
203	2 : FAIRCHILD SEMI	8125	AUG 81	1500	100 PF	1	GN	PASS	1000	8	IN.(5)(+)	COM.(8)(-)	
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
204	1 : FAIRCHILD SEMI	8125	N/R	1500	100 PF	1	GN	PASS	1000	10	IN.(1)(+)	OUT.(2)(-)	
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.												
205	1 : FAIRCHILD SEMI	8125	N/R	1500	100 PF	1	GN	FAIL	4000	2	IN.(4)(+)	COM.(8)(-)	
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.												
206	1 : FAIRCHILD SEMI	8125	N/R	1500	100 PF	1	GN	FAIL	1000	2	IN.(1)(+)	COM.(8)(-)	
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
207	1 : FAIRCHILD SEMI	8125	SEP 81	1500	100 PF	1	SS	FAIL	500	1	IN.(1)(+)	APTT(-)	
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
207	2 : FAIRCHILD SEMI	8125	SEP 81	1500	100 PF	1	SS	FAIL	800	1	IN.(4)(+)	APTT(-)	
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
207	3 : FAIRCHILD SEMI	8125	SEP 81	1500	100 PF	1	SS	FAIL	700	1	IN.(5)(+)	APTT(-)	
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
207	4 : FAIRCHILD SEMI	8125	SEP 81	1500	100 PF	1	SS	FAIL	600	1	IN.(9)(+)	APTT(-)	
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
207	5 : FAIRCHILD SEMI	8125	SEP 81	1500	100 PF	1	SS	FAIL	1250	1	IN.(12)(+)	APTT(-)	
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
207	6 : FAIRCHILD SEMI	8125	SEP 81	1500	100 PF	1	SS	FAIL	1000	1	IN.(13)(+)	APTT(-)	
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
207	7 : FAIRCHILD SEMI	8125	SEP 81	1500	100 PF	1	SS	PASS	1250	1	OUT.(2)(+)	APTT(-)	
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
207	8 : FAIRCHILD SEMI	8125	SEP 81	1500	100 PF	1	SS	PASS	1250	1	OUT.(3)(+)	APTT(-)	
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
207	9 : FAIRCHILD SEMI	8125	SEP 81	1500	100 PF	1	SS	PASS	1250	1	OUT.(6)(+)	APTT(-)	
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
207	10 : FAIRCHILD SEMI	8125	SEP 81	1500	100 PF	1	SS	PASS	1250	1	OUT.(7)(+)	APTT(-)	
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
207	11 : FAIRCHILD SEMI	8125	SEP 81	1500	100 PF	1	SS	PASS	1250	1	OUT.(10)(+)	APTT(-)	
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
207	12 : FAIRCHILD SEMI	8125	SEP 81	1500	100 PF	1	SS	PASS	1250	1	OUT.(11)(+)	APTT(-)	
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
207	13 : FAIRCHILD SEMI	8125	SEP 81	1500	100 PF	1	SS	PASS	1250	1	OUT.(14)(+)	APTT(-)	
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
207	14 : FAIRCHILD SEMI	8125	SEP 81	1500	100 PF	1	SS	PASS	1250	1	OUT.(15)(+)	APTT(-)	
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
207	15 : FAIRCHILD SEMI	8125	SEP 81	1500	100 PF	1	SS	PASS	1250	1	VCC(16)(+)	APTT(-)	
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.												
208	1 : FAIRCHILD SEMI	8125	N/R	1500	100 PF	1	SS	FAIL	1800	1	IN.(1)(+)	APTT(-)	
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.												
208	2 : FAIRCHILD SEMI	8125	N/R	1500	100 PF	1	SS	FAIL	700	4	IN.(4)(+)	APTT(-)	
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.												

TECHNOLOGY: ADVANCED STTL
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

SEC. : SEQ. :	MANUFACTUREK	DATE :	TEST :	RES. :	CAP. :	PULSES :	TYPE :	RESULT :	VOLTAGE :	DE. :	NUM. :
CODE :	NUM. :	DATE :	TEST :	RES. :	CAP. :	PULSES :	TYPE :	RESULT :	VOLTAGE :	DE. :	NUM. :
74F173	FLIP-FLOP , QUAD D										
208	3 : FAIRCHILD SEMI	8125	N/R	1500	100 PF	1	SS	FAIL	500	1	IN.(5)(+) APTT(-)
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.										
208	4 : FAIRCHILD SEMI	8125	N/R	1500	100 PF	1	SS	FAIL	1800	1	IN.(9)(+) APTT(-)
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.										
208	5 : FAIRCHILD SEMI	8125	N/R	1500	100 PF	1	SS	FAIL	2200	1	IN.(12)(+) APTT(-)
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.										
208	6 : FAIRCHILD SEMI	8125	N/R	1500	100 PF	1	SS	FAIL	2600	1	IN.(13)(+) APTT(-)
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.										
208	7 : FAIRCHILD SEMI	8125	N/R	1500	100 PF	1	SS	PASS	5000	1	OUT.(2)(+) APTT(-)
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.										
208	8 : FAIRCHILD SEMI	8125	N/R	1500	100 PF	1	SS	PASS	5000	1	OUT.(3)(+) APTT(-)
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.										
208	9 : FAIRCHILD SEMI	8125	N/R	1500	100 PF	1	SS	PASS	5000	1	OUT.(6)(+) APTT(-)
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.										
208	10 : FAIRCHILD SEMI	8125	N/R	1500	100 PF	1	SS	PASS	5000	1	OUT.(7)(+) APTT(-)
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.										
208	11 : FAIRCHILD SEMI	8125	N/R	1500	100 PF	1	SS	PASS	5000	1	OUT.(10)(+) APTT(-)
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.										
208	12 : FAIRCHILD SEMI	8125	N/R	1500	100 PF	1	SS	PASS	5000	1	OUT.(11)(+) APTT(-)
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.										
208	13 : FAIRCHILD SEMI	8125	N/R	1500	100 PF	1	SS	PASS	5000	1	OUT.(14)(+) APTT(-)
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.										
208	14 : FAIRCHILD SEMI	8125	N/R	1500	100 PF	1	SS	PASS	5000	1	OUT.(15)(+) APTT(-)
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.										
208	15 : FAIRCHILD SEMI	8125	N/R	1500	100 PF	1	SS	PASS	5000	1	VCC(16)(+) APTT(-)
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.										
209	1 : FAIRCHILD SEMI	8125	N/R	1500	100 PF	1	SS	FAIL	500	1	IN.(1)(+) APTT(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.										
209	2 : FAIRCHILD SEMI	8125	N/R	1500	100 PF	1	SS	FAIL	700	1	IN.(4)(+) APTT(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.										
209	3 : FAIRCHILD SEMI	8125	N/R	1500	100 PF	1	SS	FAIL	3400	1	IN.(5)(+) APTT(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.										
209	4 : FAIRCHILD SEMI	8125	N/R	1500	100 PF	1	SS	FAIL	300	1	IN.(9)(+) APTT(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.										
209	5 : FAIRCHILD SEMI	8125	N/R	1500	100 PF	1	SS	FAIL	400	1	IN.(12)(+) APTT(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.										
209	6 : FAIRCHILD SEMI	8125	N/R	1500	100 PF	1	SS	FAIL	800	1	IN.(13)(+) APTT(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.										
209	7 : FAIRCHILD SEMI	8125	N/R	1500	100 PF	1	SS	PASS	5000	1	OUT.(2)(+) APTT(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.										
209	8 : FAIRCHILD SEMI	8125	N/R	1500	100 PF	1	SS	PASS	5000	1	OUT.(3)(+) APTT(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.										
209	9 : FAIRCHILD SEMI	8125	N/R	1500	100 PF	1	SS	PASS	5000	1	OUT.(6)(+) APTT(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.										
209	10 : FAIRCHILD SEMI	8125	N/R	1500	100 PF	1	SS	PASS	5000	1	OUT.(7)(+) APTT(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.										
209	11 : FAIRCHILD SEMI	8125	N/R	1500	100 PF	1	SS	PASS	5000	1	OUT.(10)(+) APTT(-)
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.										

TECHNOLOGY: ADVANCED STILL
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

SERIAL : SEQ. :	DATE : TEST : RES. :	NUMBER : TEST :	NUM. :
CODE : NUM. :	MANUFACTURER : FULL PART NUM. : CODE : DATE : (OHMS) :	CAP. : PULSES : TYPE : RESULT : VOLTAGE : DEV. :	PIN COMBINATION
74F175	FLIP-FLOP, QUAD D	(CONTINUED)	
209	12 : FAIRCHILD SEMI : 74F175PC : 8125 : N/R : 1500 : 100 PF : 1 : SS : PASS : 5000 : 1 : OUT.(11)(+) APTI(-)		
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.		
209	13 : FAIRCHILD SEMI : 74F175PC : 8125 : N/R : 1500 : 100 PF : 1 : SS : PASS : 5000 : 1 : OUT.(14)(+) APTI(-)		
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.		
209	14 : FAIRCHILD SEMI : 74F175PC : 8125 : N/R : 1500 : 100 PF : 1 : SS : PASS : 5000 : 1 : OUT.(15)(+) APTI(-)		
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.		
209	15 : FAIRCHILD SEMI : 74F175PC : 8125 : N/R : 1500 : 100 PF : 1 : SS : PASS : 5000 : 1 : VCC(16)(+) APTI(-)		
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.		
210	1 : FAIRCHILD SEMI : 74F175PC : 8125 : SEP 81 : 1500 : 100 PF : 1 : SS : PASS : 1250 : 1 : IN.(1)(+)		
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING		
210	2 : FAIRCHILD SEMI : 74F175PC : 8125 : SEP 81 : 1500 : 100 PF : 1 : SS : PASS : 1250 : 1 : IN.(4)(+)		
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING		
210	3 : FAIRCHILD SEMI : 74F175PC : 8125 : SEP 81 : 1500 : 100 PF : 1 : SS : PASS : 1250 : 1 : IN.(5)(+)		
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING		
210	4 : FAIRCHILD SEMI : 74F175PC : 8125 : SEP 81 : 1500 : 100 PF : 1 : SS : FAIL : 1000 : 1 : IN.(9)(+)		
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING		
210	5 : FAIRCHILD SEMI : 74F175PC : 8125 : SEP 81 : 1500 : 100 PF : 1 : SS : PASS : 1250 : 1 : INPUT(12)(+)		
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING		
210	6 : FAIRCHILD SEMI : 74F175PC : 8125 : SEP 81 : 1500 : 100 PF : 1 : SS : PASS : 1250 : 1 : IN.(13)(+)		
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING		
210	7 : FAIRCHILD SEMI : 74F175PC : 8125 : SEP 81 : 1500 : 100 PF : 1 : SS : PASS : 1250 : 1 : OUT.(2)(+)		
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING		
210	8 : FAIRCHILD SEMI : 74F175PC : 8125 : SEP 81 : 1500 : 100 PF : 1 : SS : PASS : 1250 : 1 : OUT.(3)(+)		
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING		
210	9 : FAIRCHILD SEMI : 74F175PC : 8125 : SEP 81 : 1500 : 100 PF : 1 : SS : PASS : 1250 : 1 : OUT.(6)(+)		
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING		
210	10 : FAIRCHILD SEMI : 74F175PC : 8125 : SEP 81 : 1500 : 100 PF : 1 : SS : PASS : 1250 : 1 : OUT.(7)(+)		
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING		
210	11 : FAIRCHILD SEMI : 74F175PC : 8125 : SEP 81 : 1500 : 100 PF : 1 : SS : PASS : 1250 : 1 : OUT.(10)(+)		
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING		
210	12 : FAIRCHILD SEMI : 74F175PC : 8125 : SEP 81 : 1500 : 100 PF : 1 : SS : PASS : 1250 : 1 : OUT.(11)(+)		
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING		
210	13 : FAIRCHILD SEMI : 74F175PC : 8125 : SEP 81 : 1500 : 100 PF : 1 : SS : PASS : 1250 : 1 : OUT.(14)(+)		
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING		
210	14 : FAIRCHILD SEMI : 74F175PC : 8125 : SEP 81 : 1500 : 100 PF : 1 : SS : PASS : 1250 : 1 : OUT.(15)(+)		
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING		
210	15 : FAIRCHILD SEMI : 74F175PC : 8125 : SEP 81 : 1500 : 100 PF : 1 : SS : PASS : 1250 : 1 : VCC(16)(+)		
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING		
211	1 : FAIRCHILD SEMI : 74F175PC : 8125 : N/R : 1500 : 100 PF : 1 : SS : FAIL : 2200 : 1 : IN.(1)(+)		
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING		
211	2 : FAIRCHILD SEMI : 74F175PC : 8125 : N/R : 1500 : 100 PF : 1 : SS : FAIL : 1400 : 1 : IN.(4)(+)		
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING		
211	3 : FAIRCHILD SEMI : 74F175PC : 8125 : N/R : 1500 : 100 PF : 1 : SS : FAIL : 2200 : 1 : IN.(5)(+)		
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING		
211	4 : FAIRCHILD SEMI : 74F175PC : 8125 : N/R : 1500 : 100 PF : 1 : SS : FAIL : 2200 : 1 : IN.(9)(+)		
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING		
211	5 : FAIRCHILD SEMI : 74F175PC : 8125 : N/R : 1500 : 100 PF : 1 : SS : FAIL : 3000 : 1 : IN.(12)(+)		
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING		

TECHNOLOGY: ADVANCED STTL
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

SAC. : SEQ. :	DATE :	TEST :	RES. :	NUMBER :	TEST :	NUM. :
CODE : NUM. :	MANUFACTUREX :	FULL PART NUM. :	CODE :	DATE :	(OIMS) :	CAP. :
PULSES :	TYPE :	RESULT :	VOLTAGE :	DEV. :	PIN COMBINATION	
74F175	FLIP-FLOP, QUAD D	(CONTINUED)				
211	6 : FAIRCHILD SEMI	8125 : N/R	1500 :	100 PF :	1 : SS : FAIL :	2200 : 1 : IN.(13)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING				FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.	
211	7 : FAIRCHILD SEMI	8125 : N/R	1500 :	100 PF :	1 : SS : PASS :	5000 : 1 : OUT.(2)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING				FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.	
211	8 : FAIRCHILD SEMI	8125 : N/R	1500 :	100 PF :	1 : SS : PASS :	5000 : 1 : OUT.(3)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING				FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.	
211	9 : FAIRCHILD SEMI	8125 : N/R	1500 :	100 PF :	1 : SS : PASS :	5000 : 1 : OUT.(6)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING				FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.	
211	10 : FAIRCHILD SEMI	8125 : N/R	1500 :	100 PF :	1 : SS : PASS :	5000 : 1 : OUT.(7)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING				FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.	
211	11 : FAIRCHILD SEMI	8125 : N/R	1500 :	100 PF :	1 : SS : PASS :	5000 : 1 : OUT.(10)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING				FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.	
211	12 : FAIRCHILD SEMI	8125 : N/R	1500 :	100 PF :	1 : SS : PASS :	5000 : 1 : OUT.(11)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING				FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.	
211	13 : FAIRCHILD SEMI	8125 : N/R	1500 :	100 PF :	1 : SS : PASS :	5000 : 1 : OUT.(14)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING				FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.	
211	14 : FAIRCHILD SEMI	8125 : N/R	1500 :	100 PF :	1 : SS : PASS :	5000 : 1 : OUT.(15)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING				FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.	
211	15 : FAIRCHILD SEMI	8125 : N/R	1500 :	100 PF :	1 : SS : PASS :	5000 : 1 : VCC(16)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING				FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.	
212	1 : FAIRCHILD SEMI	8125 : N/R	1500 :	100 PF :	1 : SS : FAIL :	4700 : 1 : IN.(1)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING				FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.	
212	2 : FAIRCHILD SEMI	8125 : N/R	1500 :	100 PF :	1 : SS : FAIL :	4600 : 1 : IN.(4)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING				FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.	
212	3 : FAIRCHILD SEMI	8125 : N/R	1500 :	100 PF :	1 : SS : FAIL :	4600 : 1 : IN.(5)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING				FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.	
212	4 : FAIRCHILD SEMI	8125 : N/R	1500 :	100 PF :	1 : SS : FAIL :	2200 : 1 : IN.(9)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING				FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.	
212	5 : FAIRCHILD SEMI	8125 : N/R	1500 :	100 PF :	1 : SS : FAIL :	3000 : 1 : IN.(12)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING				FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.	
212	6 : FAIRCHILD SEMI	8125 : N/R	1500 :	100 PF :	1 : SS : FAIL :	4600 : 1 : IN.(13)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING				FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.	
212	7 : FAIRCHILD SEMI	8125 : N/R	1500 :	100 PF :	1 : SS : PASS :	5000 : 1 : OUT.(2)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING				FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.	
212	8 : FAIRCHILD SEMI	8125 : N/R	1500 :	100 PF :	1 : SS : PASS :	5000 : 1 : OUT.(3)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING				FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.	
212	9 : FAIRCHILD SEMI	8125 : N/R	1500 :	100 PF :	1 : SS : PASS :	5000 : 1 : OUT.(6)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING				FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.	
212	10 : FAIRCHILD SEMI	8125 : N/R	1500 :	100 PF :	1 : SS : PASS :	5000 : 1 : OUT.(7)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING				FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.	
212	11 : FAIRCHILD SEMI	8125 : N/R	1500 :	100 PF :	1 : SS : PASS :	5000 : 1 : OUT.(10)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING				FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.	
212	12 : FAIRCHILD SEMI	8125 : N/R	1500 :	100 PF :	1 : SS : PASS :	5000 : 1 : OUT.(11)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING				FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.	
212	13 : FAIRCHILD SEMI	8125 : N/R	1500 :	100 PF :	1 : SS : PASS :	5000 : 1 : OUT.(14)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING				FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.	
212	14 : FAIRCHILD SEMI	8125 : N/R	1500 :	100 PF :	1 : SS : PASS :	5000 : 1 : OUT.(15)(+)
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING				FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.	

TECHNOLOGY: ADVANCED STTL
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

SWC. : SEQ. :	MANUFACTURER :	DATE :	TEST :	RES. :	CAP. :	PULSES :	TYPE :	RESULT :	VOLTAGE :	DEV. :	NUM. :	PIN COMBINATION :
74F175	FLIP-FLOP, QUAD D											
212	15 : FAIRCHILD SEMI	8125	N/R	1500	100 PF	1	SS	PASS	5000	1	VCC(16)(+)	
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING											
213	1 : FAIRCHILD SEMI	8125	SEP 81	1500	100 PF	100	SS	FAIL	360	1	IN.(9)(+) APTT(-)	
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.											
214	1 : FAIRCHILD SEMI	8125	SEP 81	1500	100 PF	100	SS	FAIL	480	1	IN.(9)(+) APTT(-)	
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.											
215	1 : FAIRCHILD SEMI	8125	SEP 81	1500	100 PF	30	GN	PASS	180	1	IN.(9)(+) APTT(-)	
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.											
215	2 : FAIRCHILD SEMI	8125	SEP 81	1500	100 PF	100	GN	PASS	160	1	IN.(9)(+) APTT(-)	
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.											
215	3 : FAIRCHILD SEMI	8125	SEP 81	1500	100 PF	300	GN	PASS	180	1	IN.(9)(+) APTT(-)	
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.											
216	1 : FAIRCHILD SEMI	8125	SEP 81	1500	100 PF	30	SS	FAIL	480	1	IN.(9)(+) APTT(-)	
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.											
217	1 : FAIRCHILD SEMI	8125	SEP 81	1500	100 PF	30	GN	FAIL	360	1	IN.(9)(+) APTT(-)	
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.											
217	2 : FAIRCHILD SEMI	8125	SEP 81	1500	100 PF	100	GN	FAIL	360	1	IN.(9)(+) APTT(-)	
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.											
218	1 : FAIRCHILD SEMI	8125	SEP 81	1500	100 PF	30	GN	FAIL	480	1	IN.(9)(+) APTT(-)	
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.											
218	2 : FAIRCHILD SEMI	8125	SEP 81	1500	100 PF	30	GN	PASS	480	1	IN.(9)(+) APTT(-)	
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.											
218	3 : FAIRCHILD SEMI	8125	SEP 81	1500	100 PF	300	GN	PASS	480	1	IN.(9)(+) APTT(-)	
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.											
219	1 : FAIRCHILD SEMI	8125	N/R	1500	100 PF	100	SS	FAIL	300	2	IN.(5)(+) APTT(-)	
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.											
220	1 : FAIRCHILD SEMI	8125	N/R	1500	100 PF	30	GN	FAIL	150	1	IN.(5)(+) APTT(-)	
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.											
220	2 : FAIRCHILD SEMI	8125	N/R	1500	100 PF	100	GN	FAIL	150	1	IN.(5)(+) APTT(-)	
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.											
221	1 : FAIRCHILD SEMI	8125	N/R	1500	100 PF	10	SS	FAIL	300	1	IN.(5)(+) APTT(-)	
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.											
222	1 : FAIRCHILD SEMI	8125	N/R	1500	100 PF	10	GN	FAIL	300	1	IN.(5)(+) APTT(-)	
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.											
222	2 : FAIRCHILD SEMI	8125	N/R	1500	100 PF	30	GN	FAIL	300	1	IN.(5)(+) APTT(-)	
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.											
223	1 : FAIRCHILD SEMI	8125	N/A	1500	100 PF	100	GN	FAIL	400	1	IN.(5)(+) APTT(-)	
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.											
223	2 : FAIRCHILD SEMI	8125	N/A	1500	100 PF	100	GN	FAIL	400	4	IN.(5)(+) APTT(-)	
	FAILURE CRITERIA: 10% CHANGE IN ELECTRICAL PARAMETERS.											
224	1 : FAIRCHILD SEMI	8125	N/R	1500	100 PF	300	SS	FAIL	320	2	IN.(9)(+) APTT(-)	
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.											
224	2 : FAIRCHILD SEMI	8125	N/A	1500	100 PF	300	SS	PASS	320	3	IN.(9)(+) APTT(-)	
	FAILURE CRITERIA: ELECTRICAL PARAMETERS OUT OF SPEC.											
225	1 : FAIRCHILD SEMI	8125	SEP 81	1500	100 PF	300	SS	PASS	800	5	IN.(9)(+)	
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING											
226	1 : FAIRCHILD SEMI	8125	N/R	1500	100 PF	30	SS	FAIL	1120	1	IN.(4)(+)	
	REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING											

TECHNOLOGY: ADVANCED STTL
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION	SRC. : SEQ. :	DATE : TEST : RES. :	NUMBER : TEST :	CAP. : PULSES : TYPE : RESULT : VOLTAGE : DEV. :	PIN COMBINATION
74F175	FLIP-FLOP, QUAD D	CODE : N/A. :	FULL PART NUM. : CODE : DATE : (OHNS) :	NUMBER : TEST :	CAP. : PULSES : TYPE : RESULT : VOLTAGE : DEV. :	PIN COMBINATION
(CONTINUED)						
226	2 : FAIRCHILD SEMI REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING	74F175PC	8125 : N/R : 1500 :	100 PF : 300 : SS : PASS :	1120 : 2 : IN.(4)(+)	
227	1 : FAIRCHILD SEMI REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING	74F175PC	8125 : N/R : 1500 :	100 PF : 10 : SS : FAIL :	840 : 1 : IN.(4)(+)	
228	1 : FAIRCHILD SEMI REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING	74F175PC	8125 : N/R : 1500 :	100 PF : 300 : SS : PASS :	1120 : 1 : IN.(4)(+)	
229	1 : FAIRCHILD SEMI REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING	74F175PC	8125 : N/R : 1500 :	100 PF : 300 : GN : FAIL :	420 : 1 : IN.(4)(+)	
230	1 : FAIRCHILD SEMI REMARK: PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING	74F175PC	8125 : N/R : 1500 :	100 PF : 300 : GN : PASS :	1120 : 1 : IN.(4)(+)	
74P20	GATE, DUAL 4 INPUT NAND					
049	2 : FAIRCHILD SEMI FAILURE CRITERIA: ELECTRICAL PARAMETER OUT OF SPEC	74P20PC	8044 : JUN 81 : 1500 :	100 PF : 1 : GN : FAIL :	500 : 1 : INPUT(4)(+) VCC(14)(-)	

TECHNOLOGY: LTTL

BASIC PART NUMBER DESCRIPTION

SEC. : SEQ. : CODE : NUM. :	MANUFACTURER :	FULL PART NUM. :	DATE : TEST : RES. : : CODE : DATE : (OHMS) :	CAP. :	NUMBER : TEST : : PULSES : TYPE : RESULT : VOLTAGE : DEV. :	NUM. : : PIN COMBINATION :
54L04 BUFFER/INVERTER , HEX INVERTER						
361	1 :	N/R :	N/R :	1500 :	100 PF :	200 : 11 : GND.(1)(+) IN.(7)(-)
	FAILURE CRITERIA: I1H AND/OR VOL OUT OF SPEC.					
362	1 :	N/R :	N/R :	1500 :	100 PF :	200 : 1 : GND.(1)(+) IN.(7)(-)
	FAILURE CRITERIA: I1H AND/OR VOL OUT OF SPEC.					
363	1 :	N/R :	N/R :	1500 :	100 PF :	10 : 1 : GND.(1)(+) IN.(7)(-)
	FAILURE CRITERIA: I1H AND VOL OUT OF SPEC.					
363	2 :	N/R :	N/R :	1500 :	100 PF :	200 : 1 : GND.(1)(+) IN.(7)(-)
	FAILURE CRITERIA: I1H AND/OR VOL OUT OF SPEC.					
364	1 :	N/R :	N/R :	1500 :	100 PF :	1 : 1 : GND.(1)(+) IN.(7)(-)
	REMARK: ALL UNUSED INPUTS AT GROUND.					
364	2 :	N/R :	N/R :	1500 :	100 PF :	3 : 1 : GND.(1)(+) IN.(7)(-)
	REMARK: ALL UNUSED INPUTS AT GROUND.					
364	3 :	N/R :	N/R :	1500 :	100 PF :	5 : 1 : GND.(1)(+) IN.(7)(-)
	REMARK: ALL UNUSED INPUTS AT 5.5V.					
364	4 :	N/R :	N/R :	1500 :	100 PF :	8 : 1 : GND.(1)(+) IN.(7)(-)
	REMARK: ALL UNUSED INPUTS AT 5.5V.					
364	5 :	N/R :	N/R :	1500 :	100 PF :	50 : 1 : GND.(1)(+) IN.(7)(-)
	REMARK: ALL UNUSED INPUTS AT 5.5V.					
364	6 :	N/R :	N/R :	1500 :	100 PF :	75 : 1 : GND.(1)(+) IN.(7)(-)
	REMARK: ALL UNUSED INPUTS AT GROUND.					
364	7 :	N/R :	N/R :	1500 :	100 PF :	125 : 1 : GND.(1)(+) IN.(7)(-)
	REMARK: ALL UNUSED INPUTS AT 5.5V.					
364	9 :	N/R :	N/R :	1500 :	100 PF :	175 : 1 : GND.(1)(+) IN.(7)(-)
	REMARK: ALL UNUSED INPUTS AT 5.5V.					
364	9 :	N/R :	N/R :	1500 :	100 PF :	175 : 1 : GND.(1)(+) IN.(7)(-)
	FAILURE CRITERIA: I1H AND/OR VOL OUT OF SPEC.					
364	10 :	N/R :	N/R :	1500 :	100 PF :	200 : 11 : GND.(1)(+) IN.(7)(-)
	FAILURE CRITERIA: I1H AND/OR VOL OUT OF SPEC.					
365	1 :	N/R :	N/R :	1500 :	100 PF :	200 : 1 : GND.(1)(+) IN.(7)(-)
	FAILURE CRITERIA: I1H AND/OR VOL OUT OF SPEC.					
365	2 :	N/R :	N/R :	1500 :	100 PF :	5 : 1 : GND.(1)(+) IN.(7)(-)
	REMARK: ALL UNUSED INPUTS AT 5.5V.					
366	1 :	N/R :	N/R :	1500 :	100 PF :	10 : 1 : GND.(1)(+) IN.(7)(-)
	REMARK: ALL UNUSED INPUTS AT 5.5V.					
367	1 :	N/R :	N/R :	1500 :	100 PF :	1 : 4 : GND.(16)(+) IN.(7)(-)
	FAILURE CRITERIA: I1H AND VOL OUT OF SPEC.					
367	2 :	N/R :	N/R :	1500 :	100 PF :	1 : 2 : GND.(1)(+) IN.(7)(-)
	REMARK: ALL UNUSED INPUTS AT GROUND.					
367	3 :	N/R :	N/R :	1500 :	100 PF :	1 : 6 : GND.(1)(+) IN.(7)(-)
	REMARK: ALL UNUSED INPUTS AT 5.5V.					
367	4 :	N/R :	N/R :	1500 :	100 PF :	4 : 2 : GND.(1)(+) IN.(7)(-)
	REMARK: ALL UNUSED INPUTS AT 5.5V.					
367	5 :	N/R :	N/R :	1500 :	100 PF :	8 : 1 : GND.(1)(+) IN.(7)(-)
	REMARK: ALL UNUSED INPUTS AT 5.5V.					
367	6 :	N/R :	N/R :	1500 :	100 PF :	25 : 1 : GND.(1)(+) IN.(7)(-)
	FAILURE CRITERIA: I1H AND VOL OUT OF SPEC.					
367	7 :	N/R :	N/R :	1500 :	100 PF :	200 : 8 : GND.(1)(+) IN.(7)(-)
	FAILURE CRITERIA: I1H AND/OR VOL OUT OF SPEC.					

TECHNOLOGY: LTTL
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

SEC. :	SEQ. :	MANUFACTURER :	FULL PART NUM. :	DATE :	TEST :	RES. :	NUMBER :	TEST :	NUM. :				
CODE :	NUM. :			DATE :	(OHMS):	CAP. :	PULSES :	TYPE :	VOLTAGE :	DEV. :	PIN COMBINATION		
(CONTINUED)													
368	1 :	N/R :	N/R :	N/R :	N/R :	1500 :	100 PF :	1 :	GN :	FAIL :	4000 :	2 :	GND.(1)(+) IN.(7)(-)
	FAILURE CRITERIA: I1H AND VOL OUT OF SPEC.												
368	2 :	N/R :	N/R :	N/R :	N/R :	1500 :	100 PF :	1 :	GN :	FAIL :	4000 :	4 :	GND.(1)(+) IN.(7)(-)
	REMARK: ALL UNUSED INPUTS AT GROUND.												
368	3 :	N/R :	N/R :	N/R :	N/R :	1500 :	100 PF :	1 :	GN :	FAIL :	4000 :	7 :	GND.(1)(+) IN.(7)(-)
	REMARK: ALL UNUSED INPUTS AT 5.5V.												
368	4 :	N/R :	N/R :	N/R :	N/R :	1500 :	100 PF :	50 :	GN :	FAIL :	4000 :	1 :	GND.(1)(+) IN.(7)(-)
	FAILURE CRITERIA: I1H AND VOL OUT OF SPEC.												
368	5 :	N/R :	N/R :	N/R :	N/R :	1500 :	100 PF :	1 :	GN :	PASS :	4000 :	8 :	GND.(1)(+) IN.(7)(-)
	FAILURE CRITERIA: I1H AND VOL OUT OF SPEC.												
369	1 :	N/R :	N/R :	N/R :	N/R :	1500 :	100 PF :	1 :	GN :	FAIL :	4250 :	10 :	GND.(1)(+) IN.(7)(-)
	REMARK: ALL UNUSED INPUTS AT 5.5V.												
369	2 :	N/R :	N/R :	N/R :	N/R :	1500 :	100 PF :	1 :	GN :	FAIL :	4250 :	2 :	GND.(1)(+) IN.(7)(-)
	FAILURE CRITERIA: I1H AND VOL OUT OF SPEC.												
369	3 :	N/R :	N/R :	N/R :	N/R :	1500 :	100 PF :	1 :	GN :	FAIL :	4250 :	5 :	GND.(1)(+) IN.(7)(-)
	REMARK: ALL UNUSED INPUTS AT GROUND.												
369	4 :	N/R :	N/R :	N/R :	N/R :	1500 :	100 PF :	8 :	GN :	FAIL :	4250 :	1 :	GND.(1)(+) IN.(7)(-)
	REMARK: ALL UNUSED INPUTS AT GROUND.												
369	5 :	N/R :	N/R :	N/R :	N/R :	1500 :	100 PF :	200 :	GN :	PASS :	4250 :	3 :	GND.(1)(+) IN.(7)(-)
	FAILURE CRITERIA: I1H AND/OR VOL OUT OF SPEC.												
370	1 :	N/R :	N/R :	N/R :	N/R :	1500 :	100 PF :	1 :	GN :	FAIL :	4500 :	2 :	GND.(1)(+) IN.(7)(-)
	REMARK: ALL UNUSED INPUTS AT GROUND.												
370	2 :	N/R :	N/R :	N/R :	N/R :	1500 :	100 PF :	1 :	GN :	FAIL :	4500 :	7 :	GND.(1)(+) IN.(7)(-)
	FAILURE CRITERIA: I1H AND VOL OUT OF SPEC.												
370	3 :	N/R :	N/R :	N/R :	N/R :	1500 :	100 PF :	1 :	GN :	FAIL :	4500 :	8 :	GND.(1)(+) IN.(7)(-)
	REMARK: ALL UNUSED INPUTS AT 5.5V.												
370	4 :	N/R :	N/R :	N/R :	N/R :	1500 :	100 PF :	1 :	GN :	PASS :	4500 :	3 :	GND.(1)(+) IN.(7)(-)
	FAILURE CRITERIA: I1H AND/OR VOL OUT OF SPEC.												
371	1 :	N/R :	N/R :	N/R :	N/R :	1500 :	100 PF :	1 :	GN :	FAIL :	5000 :	7 :	GND.(1)(+) IN.(7)(-)
	REMARK: ALL UNUSED INPUTS AT 5.5V.												
371	2 :	N/R :	N/R :	N/R :	N/R :	1500 :	100 PF :	1 :	GN :	FAIL :	5000 :	5 :	GND.(1)(+) IN.(7)(-)
	FAILURE CRITERIA: I1H AND VOL OUT OF SPEC.												
371	3 :	N/R :	N/R :	N/R :	N/R :	1500 :	100 PF :	1 :	GN :	FAIL :	5000 :	4 :	GND.(1)(+) IN.(7)(-)
	REMARK: ALL UNUSED INPUTS AT GROUND.												
371	4 :	N/R :	N/R :	N/R :	N/R :	1500 :	100 PF :	2 :	GN :	FAIL :	5000 :	1 :	GND.(1)(+) IN.(7)(-)
	FAILURE CRITERIA: I1H AND VOL OUT OF SPEC.												
371	5 :	N/R :	N/R :	N/R :	N/R :	1500 :	100 PF :	6 :	GN :	FAIL :	5000 :	1 :	GND.(1)(+) IN.(7)(-)
	REMARK: ALL UNUSED INPUTS AT 5.5V.												
371	6 :	N/R :	N/R :	N/R :	N/R :	1500 :	100 PF :	7 :	GN :	FAIL :	5000 :	1 :	GND.(1)(+) IN.(7)(-)
	REMARK: ALL UNUSED INPUTS AT 5.5V.												
371	7 :	N/R :	N/R :	N/R :	N/R :	1500 :	100 PF :	175 :	GN :	FAIL :	5000 :	1 :	GND.(1)(+) IN.(7)(-)
	REMARK: ALL UNUSED INPUTS AT 5.5V.												
371	8 :	N/R :	N/R :	N/R :	N/R :	1500 :	100 PF :	200 :	GN :	FAIL :	5000 :	1 :	GND.(1)(+) IN.(7)(-)
	FAILURE CRITERIA: I1H AND VOL OUT OF SPEC.												
371	9 :	N/R :	N/R :	N/R :	N/R :	1500 :	100 PF :	200 :	GN :	PASS :	5000 :	4 :	GND.(1)(+) IN.(7)(-)
	FAILURE CRITERIA: I1H AND/OR VOL OUT OF SPEC.												
372	1 :	N/R :	N/R :	N/R :	N/R :	1500 :	100 PF :	200 :	GN :	FAIL :	5500 :	1 :	GND.(1)(+) IN.(7)(-)
	FAILURE CRITERIA: I1H AND VOL OUT OF SPEC.												

TECHNOLOGY: LITL
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

SBC.: SEQ.: : DATE : TEST : RES. : : NUMBER : TEST : : : NUM. :
CODE : RUN.: MANUFACTURER : FULL PART NUM. : CODE : DATE : (OHS): CAP. : PULSES : TYPE : RESULT : VOLTAGE : DEV. : PIN COMBINATION

54L04 BUFFER/INVERTER, HEX INVERTER

(CONTINUED)

373 : 1 : N/R : N/R : N/R : 1500 : 100 PF : 1 : GN : FAIL : 5750 : 3 : GND.(1)(+) IN.(7)(-) (-)
REMARK: ALL UNUSED INPUTS AT 5.5V. FAILURE CRITERIA: CHANGE IN VOL OF .050V AT VCO=4.5V, IOL=2MA AND VIN=2.0V.
373 : 2 : N/R : N/R : N/R : 1500 : 100 PF : 1 : GN : FAIL : 5750 : 3 : GND.(1)(+) IN.(7)(-) (-)
REMARK: ALL UNUSED INPUTS AT GROUND. FAILURE CRITERIA: CHANGE IN ITH OF 20MA AT VCO=5.5V AND VIN=2.4V
373 : 3 : N/R : N/R : N/R : 1500 : 100 PF : 1 : GN : FAIL : 5750 : 4 : GND.(1)(+) IN.(7)(-) (-)
FAILURE CRITERIA: ITH AND VOL OUT OF SPEC.
374 : 1 : N/R : N/R : N/R : 1500 : 100 PF : 1 : GN : FAIL : 6000 : 1 : GND.(1)(+) IN.(7)(-) (-)
FAILURE CRITERIA: ITH AND VOL OUT OF SPEC.
374 : 2 : N/R : N/R : N/R : 1500 : 100 PF : 25 : GN : FAIL : 6000 : 1 : GND.(1)(+) IN.(7)(-) (-)
FAILURE CRITERIA: ITH AND VOL OUT OF SPEC.
375 : 1 : N/R : N/R : N/R : 1500 : 100 PF : 20 : GN : FAIL : 6500 : 1 : GND.(1)(+) IN.(7)(-) (-)
FAILURE CRITERIA: ITH AND VOL OUT OF SPEC.
375 : 2 : N/R : N/R : N/R : 1500 : 100 PF : 25 : GN : FAIL : 6500 : 1 : GND.(1)(+) IN.(7)(-) (-)
FAILURE CRITERIA: ITH AND VOL OUT OF SPEC.
376 : 1 : N/R : N/R : N/R : 1500 : 100 PF : 1 : GN : FAIL : 7000 : 1 : GND.(1)(+) IN.(7)(-) (-)
FAILURE CRITERIA: ITH AND VOL OUT OF SPEC.
376 : 2 : N/R : N/R : N/R : 1500 : 100 PF : 2 : GN : FAIL : 7000 : 1 : GND.(1)(+) IN.(7)(-) (-)
FAILURE CRITERIA: ITH AND VOL OUT OF SPEC.
376 : 3 : N/R : N/R : N/R : 1500 : 100 PF : 5 : GN : FAIL : 7000 : 1 : GND.(1)(+) IN.(7)(-) (-)
FAILURE CRITERIA: ITH AND VOL OUT OF SPEC.
377 : 1 : N/R : N/R : N/R : 1500 : 100 PF : 50 : GN : FAIL : 7200 : 1 : GND.(1)(+) IN.(7)(-) (-)
FAILURE CRITERIA: ITH AND VOL OUT OF SPEC.
378 : 1 : N/R : N/R : N/R : 1500 : 100 PF : 1 : GN : FAIL : 7500 : 1 : GND.(1)(+) IN.(7)(-) (-)
FAILURE CRITERIA: ITH AND VOL OUT OF SPEC.
379 : 1 : N/R : N/R : N/R : 1500 : 100 PF : 1 : GN : FAIL : 8000 : 1 : GND.(1)(+) IN.(7)(-) (-)
FAILURE CRITERIA: ITH AND VOL OUT OF SPEC.

54L74 FLIP-FLOP, DUAL D

245 : 7 : N/R : N/R : N/R : 100 : .1 UF : 1 : SS : FAIL : 77 : 15 : INPUT(+) GND(-)
REMARK: FAILURE VOLTAGE IS AN AVERAGE OF 15 DEVICES. FAILURE CRITERIA: D.C. PARAMETER OUT OF SPEC.

74L00 GATE, QUAD 2 INPUT NAND

029 : 296 : TEXAS INSTRUMENTS : SN74L00 : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 4031 : 1 : N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.

74L71 FLIP-FLOP, RS

029 : 297 : TEXAS INSTRUMENTS : SN74L71 : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 4692 : 1 : N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.

74L73 FLIP-FLOP, JK

029 : 298 : TEXAS INSTRUMENTS : SN74L73 : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 2139 : 1 : N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.

TECHNOLOGY: LTL
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

SEC. : SEQ. : MANUFACTURER : DATE : TEST : RES. : NUMBER : TEST : : MIN. :
CODE : MIN. : : FULL PART NUM. : CODE : DATE : (OHMS) : CAP. : PULSES : TYPE : RESULT : VOLTAGE : DEV. : PIN COMBINATION

74195 SHIFT REGISTER, STATIC

029 : 299 : TEXAS INSTRUMENTS : SN74195 : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 4642 : 1 : N/R

REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.

TECHNOLOGY: HTTL

BASIC PART NUMBER DESCRIPTION

SEC. : SEQ. : : DATE : TEST : RES. : : NUMBER : TEST : : NUM. :
CODE : NUM. : MANUFACTURER : FULL PART NUM. : CODE : DATE : (OHMS) : CAP. : PULSES : TYPE : RESULT : VOLTAGE : DEV. : PIN COMBINATION

54800 GATE, QUAD 2-INPUT NAND

245 : 5 : N/R : N/R : N/R : 100 : .1 UP : 1 : SS : FAIL : 93 : 15 : INPUT(+) GND(-)
REMARK: FAILURE VOLTAGE IS AN AVERAGE OF 15 DEVICES. FAILURE CRITERIA: D.C. PARAMETER OUT OF SPEC.

548183 SSI/MSI, DUAL FULL ADDER

245 : 6 : N/R : N/R : N/R : 100 : .1 UP : 1 : SS : FAIL : 98 : 15 : INPUT(+) GND(-)
REMARK: FAILURE VOLTAGE IS AN AVERAGE OF 15 DEVICES. FAILURE CRITERIA: D.C. PARAMETER OUT OF SPEC.

74800 GATE, QUAD 2 INPUT NAND

029 : 294 : TEXAS INSTRUMENTS : SN74H00 : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 3205 : 1 : N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EHP DATA AND EXPONENTIAL MODEL.

74805 BUFFER/INVERTER, HEX INVERTER

029 : 295 : TEXAS INSTRUMENTS : SN74H05 : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 21697 : 1 : N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EHP DATA AND EXPONENTIAL MODEL.

74H106 FLIP-FLOP, DUAL JK

234 : 1 : N/R : N/R : N/R : N/R : 0 : 62 PF : 1 : SS : FAIL : 300 : 1 : IN.(9)(+) GND(13)(-)
REMARK: INPUT PINS 1 AND 8 FAILED AT 500V. FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE

234 : 2 : N/R : N/R : N/R : N/R : 0 : 62 PF : 1 : SS : FAIL : 300 : 1 : IN.(9)(+) GND(13)(-)
REMARK: INPUT PIN 1 FAILED AT 500V. FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE

234 : 3 : N/R : N/R : N/R : N/R : 0 : 62 PF : 1 : SS : FAIL : 300 : 1 : IN.(9)(+) GND(13)(-)
REMARK: INPUT PIN 1 FAILED AT 400V AND INPUT PIN 8 FAILED AT 500V. FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE

235 : 1 : N/R : N/R : N/R : N/R : 0 : 120 PF : 1 : SS : FAIL : 200 : 3 : IN.(9)(+) GND(8)(-)
REMARK: INPUT PINS 1 AND 8 FAILED AT 300V. FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE

235 : 2 : N/R : N/R : N/R : N/R : 0 : 120 PF : 1 : SS : FAIL : 200 : 1 : IN.(9)(+) GND(8)(-)
REMARK: INPUT PIN 8 FAILED AT 400V. FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE

235 : 3 : N/R : N/R : N/R : N/R : 0 : 120 PF : 1 : SS : FAIL : 200 : 1 : IN.(9)(+) GND(8)(-)
REMARK: INPUT PINS 1 AND 8 FAILED AT 400V. FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE

236 : 1 : N/R : N/R : N/R : N/R : 0 : 510 PF : 1 : SS : FAIL : 100 : 1 : IN.(8)(+) GND(13)(-)
REMARK: INPUT PINS 1 AND 9 FAILED AT 200V. FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE

236 : 2 : N/R : N/R : N/R : N/R : 0 : 510 PF : 1 : SS : FAIL : 100 : 1 : IN.(9)(+) GND(13)(-)
REMARK: INPUT PIN 1 FAILED AT 300V. FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE

236 : 3 : N/R : N/R : N/R : N/R : 0 : 510 PF : 1 : SS : FAIL : 100 : 1 : IN.(9)(+) GND(13)(-)
REMARK: INPUT PIN 1 FAILED AT 200V AND INPUT PIN 8 FAILED AT 300V. FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE

236 : 4 : N/R : N/R : N/R : N/R : 0 : 510 PF : 1 : SS : FAIL : 100 : 2 : IN.(8,9)(+) GND(13)(-)
REMARK: INPUT PIN 1 FAILED AT 200V. FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE

237 : 1 : N/R : N/R : N/R : N/R : 0 : .001 UP : 1 : SS : FAIL : 200 : 1 : IN.(8)(+) GND(13)(-)
REMARK: INPUT PIN 9 FAILED AT 400V. FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE

237 : 2 : N/R : N/R : N/R : N/R : 0 : .001 UP : 1 : SS : FAIL : 200 : 1 : IN.(8,9)(+) GND(13)(-)
REMARK: INPUT PIN 1 FAILED AT 300V. FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE

237 : 3 : N/R : N/R : N/R : N/R : 0 : .001 UP : 1 : SS : FAIL : 100 : 1 : IN.(9)(+) GND(13)(-)
REMARK: INPUT PIN 1 FAILED AT 200V AND INPUT PIN 8 FAILED AT 400V. FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE

237 : 4 : N/R : N/R : N/R : N/R : 0 : .001 UP : 1 : SS : FAIL : 100 : 1 : IN.(8,9)(+) GND(13)(-)
REMARK: INPUT PIN 1 FAILED AT 300V. FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE

TECHNOLOGY: HTTL
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

SEC. : SEQ. : CODE : NUM. :	MANUFACTURER	FULL PART NUM. :	DATE : TEST : RES. :	CAP. : PULSES : TYPE : RESULT : VOLTAGE : DEV. :	NUMBER : TEST : PULSES : TYPE : RESULT : VOLTAGE : DEV. :	NUM. : PIN COMBINATION
74H106	FLIP-FLOP , DUAL JK					
237 : 5 :	N/R	N/R	N/R : 0	.001 UF	1 : SS : FAIL :	100 : 1 : IM(1,8,9)(+) CHD(-)
FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE						
238 : 1 :	N/R	N/R	N/R : 0	.01 UF	1 : SS : FAIL :	100 : 2 : IM(1,8,9)(+) CHD(-)
FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE						
238 : 2 :	N/R	N/R	N/R : 0	.01 UF	1 : SS : FAIL :	100 : 2 : IM(8,9)(+) CHD(13)(-)
FAILURE CRITERIA: SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE						
76161	FROM , 2048 X 8 BIT					
030 : 578 :	N/R	N/R	N/R : 1500	100 PF	1 : N/R : FAIL :	3000 : 1 : N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%						

TECHNOLOGY: ILL

BASIC PART NUMBER DESCRIPTION

SER. : SEQ. : : DATE : TEST : RES. : : NUMBER : TEST : : : NUM. :
CODE : NUM. : MANUFACTURER : FULL PART NUM. : CODE : DATE : (OHMS) : CAP. : PULSES : TYPE : RESULT : VOLTAGE : DEV. : PIN COMBINATION

XC401 GATE, INVERTER

245 : 21 : N/R : N/R : 7616 : N/R : 100 : .1 UF : 1 : SS : FAIL : 52 : 15 : OUTPUT(+) CMD(-)
REMARK: FAILURE VOLTAGE IS AN AVERAGE OF 15 DEVICES. FAILURE CRITERIA: D.C. PARAMETER OUT OF SPEC.

XC402 GATE, NOR

245 : 22 : N/R : N/R : 7616 : N/R : 100 : .1 UF : 1 : SS : FAIL : 62 : 15 : INJECTOR(+) INPUT(-)
REMARK: FAILURE VOLTAGE IS AN AVERAGE OF 15 DEVICES. FAILURE CRITERIA: D.C. PARAMETER OUT OF SPEC.

XC404 FLIP-FLOP, D TYPE

245 : 23 : N/R : N/R : 7621 : N/R : 100 : .1 UF : 1 : SS : FAIL : 49 : 15 : INJECTOR(+) INPUT(-)
REMARK: FAILURE VOLTAGE IS AN AVERAGE OF 15 DEVICES. FAILURE CRITERIA: D.C. PARAMETER OUT OF SPEC.

5710 COMPARATOR

029 : 335 : SIGMETICS : N5710T : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 6910 : 1 : N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.

8X01 LSI, CMOS

383 : 8 : SIGMETICS : N/R : N/R : 1500 : 100 PF : 1 : SS : FAIL : 1728 : 1 : IN.(+) APTT(-)
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL. FAILURE CRITERIA: DEGRADATION OF V-I CURVE OR FUNCTIONAL FAILURE.
383 : 9 : SIGMETICS : N/R : N/R : 1500 : 100 PF : 1 : SS : FAIL : 507 : 1 : OUT.(+) APTT(-)
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL. FAILURE CRITERIA: DEGRADATION OF V-I CURVE OR FUNCTIONAL FAILURE.
383 : 10 : SIGMETICS : N/R : N/R : 1500 : 100 PF : 1 : SS : FAIL : 459 : 1 : VCC(+) APTT(-)
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL. FAILURE CRITERIA: DEGRADATION OF V-I CURVE OR FUNCTIONAL FAILURE.

9900 MICROPROCESSOR

383 : 16 : TEXAS INSTRUMENTS : SBP9900 : N/R : N/R : 1500 : 100 PF : 1 : SS : FAIL : 113 : 1 : INJ.(-) APTT(+)
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL. FAILURE CRITERIA: DEGRADATION OF V-I CURVE OR FUNCTIONAL FAILURE.

TECHNOLOGY: DTL

BASIC PART NUMBER DESCRIPTION

SBC. : SEQ. : : DATE : TEST : RES. : : NUMBER : TEST : : : NUM. :
CODE : NUM. : MANUFACTURER : FULL PART NUM. : CODE : DATE : (OHS) : CAP. : PULSES : TYPE : RESULT : VOLTAGE : DEV. : PIN COMBINATION

156 DRIVER, LINE

029 : 289 : SIGMETICS : SE156W : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 394.5 : 1 : N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.

15946 GATE, NAND

029 : 291 : TEXAS INSTRUMENTS : SN15946 : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 342741 : 1 : N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.

180 GATE, NAND

029 : 290 : SIGMETICS : SE180J : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 7274 : 1 : N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.

8481 GATE, NAND

029 : 312 : SIGMETICS : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 164722 : 1 : N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.

9093 FLIP-FLOP, DUAL JK

029 : 313 : FAIRCHILD SEMI : 9093DC9 : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 6123 : 1 : N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.

930 GATE, NAND

029 : 287 : RAYTHEON : RC930 : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 4283 : 1 : N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.

933 SSI/HSI, DUAL EXTENDER

029 : 262 : NATIONAL SEMI : DM933N : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 6748 : 1 : N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.

94459 GATE, NAND

029 : 267 : FAIRCHILD SEMI : DTHUL94459 : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 13426 : 1 : N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.

946 GATE, NAND

029 : 263 : NATIONAL SEMI : DM946D : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 5237 : 1 : N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.

029 : 264 : NATIONAL SEMI : DM946N : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 4192 : 1 : N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.

245 : 1 : N/R : N/R : 705 : N/R : 100 : .1 UP : 1 : SS : FAIL : 58 : 15 : INPUT(+) GND(-)
REMARK: FAILURE VOLTAGE IS AN AVERAGE OF 15 DEVICES. FAILURE CRITERIA: D.C. PARAMETER OUT OF SPEC.

TECHNOLOGY: DTL
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

SEC. : SEQ. : DATE : TEST : RES. : : NUMBER : TEST : : : MM. :
CODE : NUM. : MANUFACTURER : FULL PART NUM. : CODE : DATE : (OMS) : CAP. : PULSES : TYPE : RESULT : VOLTAGE : DEV. : PIN COMINATION

948 FLIP-FLOP, RS

029 : 265 : NATIONAL SEMI : D4948 : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 5227 : 1 : N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.

9908 SSI/MSI, ADDR

029 : 315 : FAIRCHILD SEMI : 9908HC : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 9561 : 1 : N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.

9930 GATE, NAND

029 : 320 : FAIRCHILD SEMI : 9930HC : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 3514 : 1 : N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.

9932 GATE, NAND

029 : 321 : FAIRCHILD SEMI : 9932HC : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 3883 : 1 : N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.

9944 GATE, NAND

029 : 322 : NATIONAL SEMI : 9944DM : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 3444 : 1 : N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.

9945 FLIP-FLOP, RS

029 : 323 : NATIONAL SEMI : 9945DM : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 3708 : 1 : N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.

029 : 324 : FAIRCHILD SEMI : 9945HC : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 4481 : 1 : N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.

9946 GATE, NAND

029 : 325 : FAIRCHILD SEMI : 9946HC : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 7970 : 1 : N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.

9948 FLIP-FLOP, RS

029 : 326 : FAIRCHILD SEMI : 9948HC : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 4774 : 1 : N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.

BASIC PART NUMBER	DESCRIPTION

SEC. :	SEQ. :	DATE :	TEST :	RES. :	CAP. :	PULSES :	TYPE :	RESULT :	VOLTAGE :	DEV. :	PIN COMBINATION :
CODE :	MIN. :	FULL PART NUM. :	CODE :	DATE :	(OHMS) :						
MANUFACTURER											

916 GATE : DUAL NAND

0029 : 285 : MOTOROLA SEMI : MC914M
REMARK: FAILURE VOLTAGE OBTAINED FROM

REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.

9909 GATE - NOR

029 : 316 : FAIRCHILD SEMI : 9909HC
REMARK: FAILURE VOLTAGE OBTAINED FROM

REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.

9910 GATE , NOR

029 : 317 : FAIRCHILD SEMI : 9910HC
REMARK: FAILURE VOLTAGE OBTAINED FROM

REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.

9911 GATE , NOR

029 : 318 : FAIRCHILD SEMI : 9911HC
REMARK: FAILURE VOLTAGE OBTAINED FROM

REMARK: FAILURE VOLTAGE OBTAINED FROM ENP DATA AND EXPONENTIAL MODEL.

9912 SSI/MSI, ADDR

029 : 319 : FAIRCHILD SEMI : 9912HC
REMARK: FAILURE VOLTAGE OBTAINED FROM

REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.:

TECHNOLOGY: ECL

BASIC PART NUMBER DESCRIPTION

SER. : SEQ. : DATE : TEST : RES. : NUMBER : TEST : : NUM. :
CODE : NUM. : MANUFACTURER : FULL PART NUM. : CODE : DATE : (OHMS) : CAP. : PULSES : TYPE : RESULT : VOLTAGE : DEV. : PIN COMBINATION

10102 GATE , QUAD 2 INPUT NOR

245 : 19 : N/R : 7718 : N/R : 100 : .1 UF : 1 : SS : FAIL : 59 : 15 : OUTPUT(+) INPUT(-)
REMARK: FAILURE VOLTAGE IS AN AVERAGE OF 15 DEVICES. FAILURE CRITERIA: D.C. PARAMETER OUT OF SPEC.

10130 LATCH , QUAD D CLOCKED

245 : 20 : N/R : 7634 : N/R : 100 : .1 UF : 1 : SS : FAIL : 131 : 15 : OUTPUT(+) INPUT(-)
REMARK: FAILURE VOLTAGE IS AN AVERAGE OF 15 DEVICES. FAILURE CRITERIA: D.C. PARAMETER OUT OF SPEC.

10146 RAM , 1024X1 BIT

027 : 10 : MOTOROLA SEMI : N/R : N/R : 1500 : 100 PF : 1 : GN : FAIL : 1000 : 15 : N/R
FAILURE CRITERIA: DC PARAMETER OUT OF SPEC

10501 GATE , QUAD 2 INPUT OR

026 : 33 : MOTOROLA SEMI : MC10501 : N/R : FEB 81 : 100 : 200 PF : 1 : SS : FAIL : 440 : 4 : N/R
REMARK: VOLTAGE IS AN AVERAGE OF 4 DEVICES FAILURE CRITERIA: CHANGE IN IIL OF 500% AT VIL = 1.85V

10518 GATE , DUAL OR/NOR

028 : 8 : N/R : N/R : 1500 : 117 PF : 30 : SS : FAIL : 1500 : 5 : N/R
FAILURE CRITERIA: IIR-10MA

1678 COUNTER , BI-QUINARY

029 : 275 : MOTOROLA SEMI : MC1678M : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 11934 : 1 : N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.

301 GATE , OR

029 : 277 : MOTOROLA SEMI : MC301 : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 82092 : 1 : N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.

304 DRIVER

029 : 278 : MOTOROLA SEMI : MC304G : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 13991 : 1 : N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.

306 FLIP-FLOP , JK

029 : 279 : MOTOROLA SEMI : MC308G : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 6257 : 1 : N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.

317 CONVERTER (D/A A/D)

029 : 280 : MOTOROLA SEMI : MC317F : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 6253 : 1 : N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.

[illegible]

351 CATH. - NOR

REMARK: FAILURE VOLTAGE OBTAINED FROM EAP DATA AND HUNSCHE MODEL:

1/2 RUPPER/INWETER, HEX INWETER

RAM - 256 BIT RAM

FAILURE CRITERIA: GREATER THAN 200MA AT 5.2VCC & GREATER THAN 10MA AT 3.8 V SWITCHING PT

REMARK: 200 VOLTS IS AN AVERAGE OF AN UNKNOWN NUMBER OF DEVICES.

REMARK: 420 VOLTS IS AN AVERAGE OF AN UNKNOWN NUMBER OF DEVICES.

Z : M/R : N/R : N/R : N/R :
REMARK: 200 VOTES IS AN AVERAGE OF AN UNKNOWN NUMBER OF DEVICES

3: $\frac{N}{2}$: $\frac{N}{2}$: $\frac{N}{2}$: $\frac{N}{2}$:

FAILURE CRITERIA: GREATER THAN 200MA AT 5.2VCC & GREATER THAN 10

01 INMIL
DUMVOC ; COME 3 NV INOC; RFLN;
SICSIAD 40 YEHUN MOWHO NY 40 EYEVAV NY SI STDA OOI : JYVEH

REMARK: 700 VOLTS IS AN AVERAGE OF AN UNKNOWN NUMBER OF DEVICES.

3: N/R : N/R : N/R : N/R :

FAILURE CRITERIA: GREATER THAN 200MA AT 5.2 VCC & GREATER THAN 1

CONCLUSIONS: 2100 VOLTS IS AN AVERAGE OF AN UNKNOWN NUMBER OF DEVICES. **FAILING CRITERIA:** GREATER THAN 200MA AT 5.2 VCC & GREATER THAN 1

SECTION 2B

DETAILED DISCRETE COMPONENT SUSCEPTIBILITY TEST DATA

DEVICE TYPE: DIODES

BASIC PART NUMBER DESCRIPTION

SEC. : SEQ. : : DATE : TEST : : NUMBER : TEST : : : : :
 CODE : NUM. : : FULL PART NUM. : CODE : DATE : (OHMS) : CAP. : PULSES : TYPE : RESULT : VOLTAGE : DEV. : : PIN COMBINATION

7D777 SWITCHING DIODE

029 : 109 : FAIRCHILD SEMI : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1017 : 1 : N/R

REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.

LVA351 VOLTAGE REFERENCE DIODE

029 : 110 : CODI SEMICONDUCTOR : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 126405 : 1 : N/R

REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.

LVA356 VOLTAGE REFERENCE DIODE

048 : 5 : N/R : N/R : 100 : 218 PF : 1 : SS : PASS : 3000 : 1 : N/R

FAILURE CRITERIA: 50% DROP IN REVERSE VOLTAGE AT IR-5UA

LVA51A VOLTAGE REFERENCE DIODE

029 : 111 : TRW : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 124453 : 1 : N/R

REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.

LVA91A VOLTAGE REFERENCE DIODE

029 : 112 : TRW : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 93922 : 1 : N/R

REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.

HR501 GENERAL PURPOSE DIODE

029 : 113 : MOTOROLA SEMI : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 9962 : 1 : N/R

REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.

SD241 SCHOTTKY POWER RECTIFIER

026 : 38 : TRW : N/R : N/R : FEB 81 : 100 : 200 PF : 1 : SS : FAIL : 1400 : 4 : C(+) A(-)

REMARK: OF 4 DEVICES FAILURE VOLTAGE WAS FROM 1400V TO 6000V FAILURE CRITERIA: CHANGE IN IR OF 500% AT VR=35V

TI531 DIODES

048 : 3 : N/R : N/R : N/R : 100 : 218 PF : 1 : SS : FAIL : 450 : 1 : N/R

FAILURE CRITERIA: 50% DROP IN REVERSE VOLTAGE AT IR-5UA

1N1095 GENERAL PURPOSE DIODE

029 : 114 : TEXAS INSTRUMENTS : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 12868 : 1 : N/R

REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.

1N1124A GENERAL PURPOSE DIODE

029 : 115 : SYNTROW : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 31200 : 1 : N/R

REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.

DEVICE TYPE: DIODES
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION	SRC. : SEQ. : CODE : NUM. :	MANUFACTURER	DATE : TEST : RES. : : CODE : DATE : (OHMS) :	FULL PART NUM. :	CAP. : PULSES : TYPE : RESULT : : : : : VOLTAGE : DEV. :	NUM. : : : : : PIN COMBINATION
1N1126A	GENERAL PURPOSE DIODE						
029 : 116 :	SYNTRON		N/R	N/R : N/R : 1500 :	100 PF :	1 : N/R : FAIL :	93741 : 1 : N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.						
1N1202A	POWER RECTIFIER						
029 : 117 :	N/R		N/R	N/R : N/R : 1500 :	100 PF :	1 : N/R : FAIL :	55813 : 1 : N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.						
030 : 600 :	N/R		N/R	N/R : N/R : 1500 :	100 PF :	1 : N/R : FAIL :	10000 : 1 : N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%						
1N1202A1	POWER RECTIFIER						
029 : 118 :	BENDIX		N/R	N/R : N/R : 1500 :	100 PF :	1 : N/R : FAIL :	90397 : 1 : N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.						
1N1204A	POWER RECTIFIER						
232 : 59 :	N/R		N/R	N/R : N/R : 1500 :	100 PF :	1 : N/R : FAIL :	108139 : 1 : N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)						
1N1206	POWER RECTIFIER						
029 : 119 :	SYNTRON		N/R	N/R : N/R : 1500 :	100 PF :	1 : N/R : FAIL :	92874 : 1 : N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.						
1N1614	GENERAL PURPOSE DIODE						
029 : 120 :	N/R		N/R	N/R : N/R : 1500 :	100 PF :	1 : N/R : FAIL :	70874 : 1 : N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.						
1N1615	GENERAL PURPOSE DIODE						
029 : 121 :	SYNTRON		N/R	N/R : N/R : 1500 :	100 PF :	1 : N/R : FAIL :	88705 : 1 : N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.						
1N1733A	GENERAL PURPOSE DIODE						
029 : 122 :	TRW		N/R	N/R : N/R : 1500 :	100 PF :	1 : N/R : FAIL :	32958 : 1 : N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.						
1N2181	MICROWAVE DIODES						
029 : 123 :	ALPHA INDUSTRIES		N/R	N/R : N/R : 1500 :	100 PF :	1 : N/R : FAIL :	1193 : 1 : N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.						
1N21C1	MICROWAVE DIODES						
029 : 124 :	ALPHA INDUSTRIES		N/R	N/R : N/R : 1500 :	100 PF :	1 : N/R : FAIL :	1550 : 1 : N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.						

[illegible][illegible]

1N21E1 MICROWAVE DIODES

029 : 125 : ALPHA INDUSTRIES : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1579 : 1 :
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.

192171 MICROWAVE DIODES

029 : 126 : ALPHA INDUSTRIES : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1334 : 1 : N/R :
REMARKS: RAILING VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.

1N211W1 MICROWAVE DIODES

029 : 127 : ALPHA INDUSTRIES : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1266 : 1 : N/R

GENERAL PURPOSE DIODE

029 : 128 : SYNTAX : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 146346 : 1 : N/R

1M231 MICROWAVE DIODES

029 : 129 : ALPHA INDUSTRIES : : N/R : N/R : 1500 : 100 PP : 1 : N/R : FAIL : 1193 : 1 :
 REMARK: FATIURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.

1N2301 MICROWAVE DIODES

029 : 130 : ALPHA INDUSTRIES : N/A : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1033 : 1 :
REMARK: FAILURE VOLTAGE OBTAINED FROM EHP DATA AND WUNSCH MODEL.

1N2381 MICROWAVE DIODES

029 : 131 : ALPHA INDUSTRIES : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1350 : 1 :
REMARK: FAILURE VOLTAGE OBTAINED FROM EHP DATA AND WUNSH MODEL.

1N23P1
MICROWAVE DIODES

029 : 132 : ALPHA INDUSTRIES : N/R : N/R : 1300 : 100 PF : 1 : N/R : FAIL : 94J : A :
REPAIR: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WINSCH MODEL.

1N2361 MICROWAVE DIODE

029 : 133 : ALPHA INDUSTRIES : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 8/0 : 1 :
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.

1N2387 MICROWAVE DIODE

029 : 134 : ALPHA INDUSTRIES : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1 : 913 : 1 :
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.

DEVICE TYPE: DIODES
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION	SEC. : SEQ. : CODE : NUM. :	MANUFACTURER	FULL PART NUM. :	DATE : TEST : RES. :	NUMBER : TEST :	PULSES : TYPE : RESULT:	VOLTAGE: DEV. :	NUM. : PIN COMBINATION
1N23WE	POINT CONTACT DIODE								
029	135 : ALPHA INDUSTRIES		N/R	N/R : N/R : 1500 : 100 PF :	1 : N/R : FAIL :	508 :	1 :	N/R	
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.								
026	25 : N/R		N/R	N/R : JAN 78 : 100 : 200 PF :	1 : SS : FAIL :	56 :	4 :	C(+) A(-)	
	REMARK: VOLTAGE IS AN AVERAGE OF 4 DEVICES								
	FAILURE CRITERIA: IL AT VR = .5V +300Z								
1N25	MICROWAVE DIODES								
029	136 : ALPHA INDUSTRIES		N/R	N/R : N/R : 1500 : 100 PF :	1 : N/R : FAIL :	4812 :	1 :	N/R	
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.								
1N25A1	MICROWAVE DIODES								
029	137 : ALPHA INDUSTRIES		N/R	N/R : N/R : 1500 : 100 PF :	1 : N/R : FAIL :	3402 :	1 :	N/R	
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.								
1N251	MICROWAVE DIODES								
029	138 : ALPHA INDUSTRIES		N/R	N/R : N/R : 1500 : 100 PF :	1 : N/R : FAIL :	2233 :	1 :	N/R	
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.								
1N253	GENERAL PURPOSE DIODE								
029	139 : TRANSITION ELEC. CORP. :		N/R	N/R : N/R : 1500 : 100 PF :	1 : N/R : FAIL :	23347 :	1 :	N/R	
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.								
1N2701	GENERAL PURPOSE DIODE								
029	140 : ITT SEMICONDUCTOR		N/R	N/R : N/R : 1500 : 100 PF :	1 : N/R : FAIL :	2624 :	1 :	N/R	
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.								
1N277	GENERAL PURPOSE DIODE								
029	141 : N/R		N/R	N/R : N/R : 1500 : 100 PF :	1 : N/R : FAIL :	1792 :	1 :	N/R	
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.								
1N2804B	VOLTAGE REFERENCE DIODE								
030	601 : N/R		N/R	N/R : N/R : 1500 : 100 PF :	1 : N/R : PASS :	15300 :	1 :	N/R	
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10Z								
1N2813B	VOLTAGE REFERENCE DIODE								
030	602 : N/R		N/R	N/R : N/R : 1500 : 100 PF :	1 : N/R : PASS :	15300 :	1 :	N/R	
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10Z								
1N2816B	VOLTAGE REFERENCE DIODE								
030	603 : N/R		N/R	N/R : N/R : 1500 : 100 PF :	1 : N/R : PASS :	15300 :	1 :	N/R	
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10Z								

DEVICE TYPE: DIODES
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION	SRC. : SEQ. : CODE : NUM. :	MANUFACTURER	TUNNEL DIODE	DATE : TEST : RES. :	FULL PART NUM. :	CAP. : (OHMS) :	NUMBER : TEST : PULSES : TYPE : RESULT :	VOLTAGE : DEV. : PIN COMBINATION
1N2929A	TUNNEL DIODE								
029 : 142 : CENTRALAB									
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.									
1N2970B	VOLTAGE REFERENCE DIODE								
029 : 143 : CENTRALAB									
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.									
1N2984B	VOLTAGE REFERENCE DIODE								
029 : 144 : CENTRALAB									
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.									
1N2985B	VOLTAGE REFERENCE DIODE								
029 : 145 : CENTRALAB									
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.									
1N2985B	VOLTAGE REFERENCE DIODE								
029 : 146 : MOTOROLA SEMI									
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.									
1N2988B	VOLTAGE REFERENCE DIODE								
029 : 147 : CENTRALAB									
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.									
1N2989B	VOLTAGE REFERENCE DIODE								
029 : 148 : N/R									
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.									
1N2991B	VOLTAGE REFERENCE DIODE								
029 : 149 : CENTRALAB									
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.									
1N3015B	VOLTAGE REFERENCE DIODE								
029 : 150 : CENTRALAB									
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.									
1N3017B	VOLTAGE REFERENCE DIODE								
029 : 151 : CENTRALAB									
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.									

DEVICE TYPE: DIODES
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION	SRC. : SEQ. : CODE : NUM. :	MANUFACTURER	FULL PART NUM. :	DATE : TEST : : CODE : (OHMS) :	CAP. : PULSES : : TYPE : RESULT :	NUM. : : DEV. :	PIN COMBINATION
1N3019B	VOLTAGE REFERENCE DIODE							
029	152 : CENTRALAB			N/R	N/R : 1500 : 100 PF	1 : N/R : FAIL : 154045	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL							
1N3022B	VOLTAGE REFERENCE DIODE							
029	153 : N/R			N/R	N/R : 1500 : 100 PF	1 : N/R : FAIL : 110268	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL							
1N3025B	VOLTAGE REGULATOR DIODE							
030	690 : N/R			N/R	N/R : 1500 : 100 PF	1 : N/R : FAIL : 15000	1	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%							
1N3031B	VOLTAGE REFERENCE DIODE							
029	154 : N/R			N/R	N/R : 1500 : 100 PF	1 : N/R : FAIL : 156428	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL							
1N3035B	VOLTAGE REFERENCE DIODE							
029	155 : CENTRALAB			N/R	N/R : 1500 : 100 PF	1 : N/R : FAIL : 194957	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL							
1N3037B	VOLTAGE REFERENCE DIODE							
029	156 : CENTRALAB			N/R	N/R : 1500 : 100 PF	1 : N/R : FAIL : 202154	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL							
1N3040B	VOLTAGE REFERENCE DIODE							
029	157 : CENTRALAB			N/R	N/R : 1500 : 100 PF	1 : N/R : FAIL : 247209	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL							
1N3047B1	ZENER DIODE							
029	158 : INTWTL. RECTIFIER CORP.			N/R	N/R : 1500 : 100 PF	1 : N/R : PF : 11608	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL							
1N3064	SWITCHING DIODE							
029	159 : N/R			N/R	N/R : 1500 : 100 PF	1 : N/R : FAIL : 8812	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL							
1N30641	SWITCHING DIODE							
029	160 : RAYTHEON			N/R	N/R : 1500 : 100 PF	1 : N/R : FAIL : 23216	1	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL							

[illegible]

UN3155 VOLTAGE REFERENCE DIODE

FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

1N3157 VOLTAGE REFERENCE DIODE

REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL

IN3189
GENERAL PURPOSE DIODE

REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.

1N31911 GENERAL PURPOSE DIODE

REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.

1N3323B **VOLTAGE REFERENCE DIODE**

REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)

1N34A

REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.

1N3595

REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)

1N35951
GENERAL PURPOSE DIODE

REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.

1N3600 **SWITCHING DIODE**

REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.

692 :	N/R	:	N/R	:	N/R	:	1500
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REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNTS

DEVICE TYPE: DIODES
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION	SRC. : SEQ. : CODE : NUM. :	MANUFACTURER	FULL PART NUM. :	DATE : TEST : : CODE : DATE :	RES. : (OHMS) :	CAP. : PULSES : TYPE :	RESULT : VOLTAGE :	DEV. : PIN COMBINATION
1N36001	SWITCHING DIODE								
029 : 168 :	FAIRCHILD SEMI			N/R	N/R	1500	100 PF	1 : N/R : FAIL :	7312 : 1 : N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.								
1N3821A	VOLTAGE REFERENCE DIODE								
029 : 169 :	DICKSON ELEC. CORP.			N/R	N/R	1500	100 PF	1 : N/R : FAIL :	103218 : 1 : N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.								
1N3828A	VOLTAGE REFERENCE DIODE								
029 : 170 :	N/R			N/R	N/R	1500	100 PF	1 : N/R : FAIL :	92159 : 1 : N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.								
1N3910	SWITCHING DIODE								
030 : 604 :	N/R			N/R	N/R	1500	100 PF	1 : N/R : FAIL :	12000 : 1 : N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%								
1N4003	GENERAL PURPOSE DIODE								
029 : 171 :	MOTOROLA SEMI			N/R	N/R	1500	100 PF	1 : N/R : FAIL :	35426 : 1 : N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.								
1N4004	POWER RECTIFIER								
030 : 693 :	N/R			N/R	N/R	1500	100 PF	1 : N/R : FAIL :	7000 : 1 : N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%								
1N40051	GENERAL PURPOSE DIODE								
029 : 172 :	MOTOROLA SEMI			N/R	N/R	1500	100 PF	1 : N/R : FAIL :	3697 : 1 : N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.								
1N4006	GENERAL PURPOSE DIODE								
029 : 173 :	MOTOROLA SEMI			N/R	N/R	1500	100 PF	1 : N/R : FAIL :	5369 : 1 : N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.								
1N4099	VOLTAGE REGULATOR DIODE								
232 : 63 :	N/R			N/R	N/R	1500	100 PF	1 : N/R : FAIL :	7871 : 1 : N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)								
026 : 20 :	N/R			N/R	N/R	100	200 PF	1 : SS : FAIL :	6000 : 4 : C(+) A(-)
	REMARK: VOLTAGE IS AN AVERAGE OF 4 DEVICES FAILURE CRITERIA: IZ AT VR= 6.5V +1000% CHANGE								
1N4100	VOLTAGE REFERENCE DIODE								
232 : 64 :	N/R			N/R	N/R	1500	100 PF	1 : N/R : FAIL :	7854 : 1 : N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)								

BASIC PART NUMBER	DESCRIPTION
SERIAL : SEQ. :	DATE : TEST :
CODE : NUM. :	FULL PART NUM. : RES. :
	PULSES : TYPE : RESULT : VOLTAGE : DEV. :
	NUM. :
VOLTAGE REFERENCE DIODE	
232 : 65 :	N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 7638 : 1 :
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNTSCH MODEL. (SUPERSAP 2)
VOLTAGE REGULATOR DIODE	
030 : 694 :	N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 15000 : 1 :
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%
232 : 66 :	N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 7590 : 1 :
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNTSCH MODEL. (SUPERSAP 2)
VOLTAGE REFERENCE DIODE	
232 : 1 :	N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 7608 : 1 :
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNTSCH MODEL. (SUPERSAP 2)
VOLTAGE REFERENCE DIODE	
232 : 2 :	N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 7562 : 1 :
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNTSCH MODEL. (SUPERSAP 2)
VOLTAGE REFERENCE DIODE	
232 : 3 :	N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 7471 : 1 :
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNTSCH MODEL. (SUPERSAP 2)
VOLTAGE REFERENCE DIODE	
232 : 4 :	N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 7337 : 1 :
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNTSCH MODEL. (SUPERSAP 2)
VOLTAGE REFERENCE DIODE	
232 : 5 :	N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 7271 : 1 :
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNTSCH MODEL. (SUPERSAP 2)
VOLTAGE REFERENCE DIODE	
232 : 6 :	N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 7142 : 1 :
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNTSCH MODEL. (SUPERSAP 2)
VOLTAGE REFERENCE DIODE	
232 : 7 :	N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 7057 : 1 :
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNTSCH MODEL. (SUPERSAP 2)
VOLTAGE REFERENCE DIODE	
232 : 8 :	N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 6973 : 1 :
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNTSCH MODEL. (SUPERSAP 2)

DEVICE TYPE: DIODES
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION	SRC. : SEQ. : CODE : NUM. :	MANUFACTURER	FULL PART NUM. :	DATE : TEST : RES. :	NUMBER : TEST : PULSES : TYPE : RESULT :	VOLTAGE : DEV. : VOLTAGE : PIN COMBINATION
1M4126	VOLTAGE REFERENCE DIODE						
232 : 9 :	N/R			N/R : N/R : 1500 : 100 PF :	1 : N/R : FAIL :	6891 : 1 :	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)						
1M4127	VOLTAGE REFERENCE DIODE						
232 : 10 :	N/R			N/R : N/R : 1500 : 100 PF :	1 : N/R : FAIL :	6790 : 1 :	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)						
1M4129	VOLTAGE REFERENCE DIODE						
232 : 11 :	N/R			N/R : N/R : 1500 : 100 PF :	1 : N/R : FAIL :	6671 : 1 :	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)						
1M4130	VOLTAGE REFERENCE DIODE						
232 : 12 :	N/R			N/R : N/R : 1500 : 100 PF :	1 : N/R : FAIL :	6555 : 1 :	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)						
1M4131	VOLTAGE REFERENCE DIODE						
232 : 13 :	N/R			N/R : N/R : 1500 : 100 PF :	1 : N/R : FAIL :	6423 : 1 :	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)						
1M4132	VOLTAGE REFERENCE DIODE						
232 : 14 :	N/R			N/R : N/R : 1500 : 100 PF :	1 : N/R : FAIL :	6296 : 1 :	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)						
1M4134	VOLTAGE REFERENCE DIODE						
232 : 15 :	N/R			N/R : N/R : 1500 : 100 PF :	1 : N/R : FAIL :	6135 : 1 :	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)						
1M4148	SWITCHING DIODE						
029 : 174 :	FAIRCHILD SEMI			N/R : N/R : 1500 : 100 PF :	1 : N/R : FAIL :	1189 : 1 :	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.						
030 : 695 :	N/R			N/R : N/R : 1500 : 100 PF :	1 : N/R : FAIL :	4500 : 1 :	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%						
1M4148-1	SWITCHING DIODE						
030 : 605 :	N/R			N/R : N/R : 1500 : 100 PF :	1 : N/R : PASS :	4500 : 1 :	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%						
1M4150	SWITCHING DIODE						
232 : 16 :	N/R			N/R : N/R : 1500 : 100 PF :	1 : N/R : FAIL :	2787 : 1 :	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)						

DEVICE TYPE: DIODES
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION	SRC. : SEQ. : CODE : NUM. :	MANUFACTURER	FULL PART NUM. :	DATE : TEST : RES. : : CODE : (OHMS) :	NUMBER : TEST : : PULSES : TYPE : RESULT : : CAP. : VOLTAGE : DEV. :	NUM. : : PIN COMBINATION :
1M4150-1	SWITCHING DIODE						
030 : 606 :	N/R			N/R : N/R : 1500 : 100 PF :	1 : N/R : FAIL :	4500 : 1 :	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%						
026 : 22 :	GENERAL ELECTRIC			N/R : JAN 78 : 100 : 200 PF :	1 : SS : FAIL :	3875 : 4 :	C(+) A(-)
	REMARK: VOLTAGE IS AN AVERAGE OF 4 DEVICES			FAILURE CRITERIA: IL AT VR = 50V +1000% CHANGE			
1M4151	SWITCHING DIODE						
048 : 4 :	N/R			N/R : N/R : 100 : 218 PF :	1 : SS : PASS :	3000 : 1 :	N/R
	FAILURE CRITERIA: 50% DROP IN REVERSE VOLTAGE AT IR=5UA						
1M41521	SWITCHING DIODE						
029 : 175 :	FAIRCHILD SEMI			N/R : N/R : 1500 : 100 PF :	1 : N/R : FAIL :	4077 : 1 :	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.						
1M4153-1	SWITCHING DIODE						
232 : 17 :	N/R			N/R : N/R : 1500 : 100 PF :	1 : N/R : FAIL :	2625 : 1 :	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)						
1M41541	SWITCHING DIODE						
029 : 176 :	FAIRCHILD SEMI			N/R : N/R : 1500 : 100 PF :	1 : N/R : FAIL :	3293 : 1 :	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.						
1M416G1	MICROWAVE DIODES						
029 : 177 :	N/R			N/R : N/R : 1500 : 100 PF :	1 : N/R : FAIL :	1910 : 1 :	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.						
1M42441	SWITCHING DIODE						
029 : 178 :	FAIRCHILD SEMI			N/R : N/R : 1500 : 100 PF :	1 : N/R : FAIL :	1418 : 1 :	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.						
1M429	VOLTAGE REFERENCE DIODE						
029 : 179 :	CENTRALAB			N/R : N/R : 1500 : 100 PF :	1 : N/R : FAIL :	22809 : 1 :	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.						
1M4370	VOLTAGE REFERENCE DIODE						
029 : 180 :	TRANSITION ELEC. CORP. :			N/R : N/R : 1500 : 100 PF :	1 : N/R : FAIL :	107626 : 1 :	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.						
1M4385	GENERAL PURPOSE DIODE						
029 : 181 :	ITT SEMICONDUCTOR			N/R : N/R : 1500 : 100 PF :	1 : N/R : FAIL :	16674 : 1 :	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.						

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SWITCHING DIODE

029	: 182	: FAIRCHILD SEMI	:	N/R	:	N/R	:	1500	:	100 PF	:	1	:	N/R	:	FAIL	:	5889	:	1	:	N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.																						

1N4654 SWITCHING DIODE

232 : 18 : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 2625 : 1 : N/R

REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)

1N4465 VOLTAGE REGULATOR DIODE

030 : 607 : N/R : N/R : N/R : 100 PF : 1 : N/R : PASS : 15300 : 1 : N/R

FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

1N4467
VOLTAGE REGULATOR DIODE

030 : 608 : N/R : N/R : 1500 : 100 PF : 1 : N/R : PASS : 15300 : 1 : N/R

FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

1N4469
VOLTAGE REGULATOR DIODE

030 : 609 : N/R : N/R : 1500 : 100 PF : 1 : N/R : PASS : 15300 : 1 :
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

1N4471
VOLTAGE REGULATOR DIODE

030 : 610 : N/R : N/R : 100 PF : 1 : N/R : PASS : 15300 : 1 : N/R

FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

1N4474
VOLTAGE REGULATOR DIODE

030 : 611 : N/R : N/R : 100 PF : 1 : N/R : PASS : 15300 : 1 :
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

1N4476
VOLTAGE REGULATOR DIODE

030 : 612 : N/R : N/R : 1500 : 100 PF : 1 : N/R : PASS : 15300 : 1 : N/R

FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

1N4561
GENERAL PURPOSE DIODE

029 : 183 : FAIRCHILD SEMI : N/R : N/R : 1500 : 100 PF : 1 : N/R : FA2L : 13624 : 1 : N/R

REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.

1N457

029 : 184 : FAIRCHILD SEMI : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 7437 : 1 : N/R

REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.

DEVICE TYPE: DIODES
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION	SEC. : SEQ. : CODE : NUM. :	MANUFACTURER	FULL PART NUM. :	DATE : TEST : RES. :	CAP. : PULSES : TYPE : RESULT: VOLTAGE: DEV. :	NUM. : PIN COMBINATION
1N459	GENERAL PURPOSE DIODE						
029	185 : TEXAS INSTRUMENTS : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 15090 : 1 : N/R						
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND MUNSCH MODEL.						
030	684 : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 12000 : 1 : N/R						
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%						
048	1 : N/R : N/R : 100 : 218 PF : 1 : SS : PASS : 3000 : 1 : N/R						
	FAILURE CRITERIA: 50% DROP IN REVERSE VOLTAGE AT IR=5UA						
1N459A	GENERAL PURPOSE DIODE						
29	186 : TRV : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 20969 : 1 : N/R						
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND MUNSCH MODEL.						
1N4614	VOLTAGE REGULATOR DIODE						
030	696 : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 15000 : 1 : N/R						
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%						
1N4624	VOLTAGE REGULATOR DIODE						
030	613 : N/R : N/R : 1500 : 100 PF : 1 : N/R : PASS : 15300 : 1 : N/R						
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%						
1N4625	VOLTAGE REGULATOR DIODE						
030	614 : N/R : N/R : 1500 : 100 PF : 1 : N/R : PASS : 15300 : 1 : N/R						
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%						
1N4626	VOLTAGE REGULATOR DIODE						
030	615 : N/R : N/R : 1500 : 100 PF : 1 : N/R : PASS : 15300 : 1 : N/R						
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%						
1N4627	VOLTAGE REGULATOR DIODE						
030	616 : N/R : N/R : 1500 : 100 PF : 1 : N/R : PASS : 15300 : 1 : N/R						
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%						
1N4679	VOLTAGE REGULATOR DIODE						
030	617 : N/R : N/R : 1500 : 100 PF : 1 : N/R : PASS : 15300 : 1 : N/R						
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%						
1N4683	VOLTAGE REGULATOR DIODE						
030	618 : N/R : N/R : 1500 : 100 PF : 1 : N/R : PASS : 15300 : 1 : N/R						
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%						

DEVICE TYPE: DIODES
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION	SERIAL : SEQ. : CODE : NUM. :	MANUFACTURER	DATE : TEST : RES. :	FULL PART NUM. : CODE : DATE : (OHMS) :	CAP. : PULSES : TYPE : RESULT : VOLTAGE : DEV. :	NUM. : PIN COMBINATION
1M4686	VOLTAGE REGULATOR DIODE						
030 : 619 :	N/R :						
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%						
1M4689	VOLTAGE REGULATOR DIODE						
030 : 620 :	N/R :						
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%						
1M4691	VOLTAGE REGULATOR DIODE						
030 : 621 :	N/R :						
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%						
1M4693	VOLTAGE REGULATOR DIODE						
030 : 622 :	N/R :						
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%						
1M4696	VOLTAGE REGULATOR DIODE						
030 : 623 :	N/R :						
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%						
1M4697	VOLTAGE REGULATOR DIODE						
030 : 624 :	N/R :						
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%						
1M47271	SWITCHING DIODE						
029 : 187 :	FAIRCHILD SEMI :						
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.						
1M482A	GENERAL PURPOSE DIODE						
029 : 188 :	TRANSITION ELEC. CORP. :						
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.						
1M4821	GENERAL PURPOSE DIODE						
029 : 189 :	FAIRCHILD SEMI :						
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.						
1M483B	GENERAL PURPOSE DIODE						
029 : 190 :	TRANSITION ELEC. CORP. :						
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.						

DEVICE TYPE: DIODES
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION	SRC. : SEQ. : CODE : NUM. :	MANUFACTURER	FULL PART NUM. :	DATE : TEST : RES. :	NUMBER : TEST : PULSES : TYPE : RESULT :	NUM. : VOLTAGE : DEV. :	PIN COMBINATION
1N4844	GENERAL PURPOSE DIODE							
029 : 191 :	TRANSITION ELEC. CORP. :	N/R		N/R : N/R : 1500 :	100 PF :	1 :	N/R : FAIL :	14589 : 1 :
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.							N/R
1N4866	GENERAL PURPOSE DIODE							
029 : 192 :	TRANSITION ELEC. CORP. :	N/R		N/R : N/R : 1500 :	100 PF :	1 :	N/R : FAIL :	7374 : 1 :
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.							N/R
1N4868	DIODES							
232 : 51 :	N/R			N/R : N/R : 1500 :	100 PF :	1 :	N/R : FAIL :	3224 : 1 :
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)							N/R
1N4905A	VOLTAGE REFERENCE DIODE							
030 : 697 :	N/R			N/R : N/R : 1500 :	100 PF :	1 :	N/R : FAIL :	15000 : 1 :
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%							N/R
1N4937	SWITCHING DIODE							
029 : 193 :	MOTOROLA SEMI			N/R : N/R : 1500 :	100 PF :	1 :	N/R : FAIL :	10054 : 1 :
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.							N/R
1N4938	SWITCHING DIODE							
232 : 19 :	N/R			N/R : N/R : 1500 :	100 PF :	1 :	N/R : FAIL :	5827 : 1 :
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)							N/R
1N4942	SWITCHING DIODE							
232 : 20 :	N/R			N/R : N/R : 1500 :	100 PF :	1 :	N/R : FAIL :	23868 : 1 :
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)							N/R
1N4944	SWITCHING DIODE							
232 : 21 :	N/R			N/R : N/R : 1500 :	100 PF :	1 :	N/R : FAIL :	24771 : 1 :
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)							N/R
1N4946	SWITCHING DIODE							
232 : 22 :	N/R			N/R : N/R : 1500 :	100 PF :	1 :	N/R : FAIL :	21703 : 1 :
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)							N/R
1N4948	SWITCHING DIODE							
232 : 23 :	N/R			N/R : N/R : 1500 :	100 PF :	1 :	N/R : FAIL :	15873 : 1 :
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)							N/R

BASIC PART NUMBER	DESCRIPTION
SRC. : SEQ. :	: DATE : TEST : RES. :
CODE : NUM. :	: FULL PART NUM. : CODE : DATE : TEST : TYPE : RESULT : VOLTAGE : DEV. :
	CAP. : PULSES :
	NUM. :
	PIN COMBINATION
LN4954	VOLTAGE REGULATOR DIODE
030 : 625 :	N/R : N/R : N/R : N/R : PASS : 15300 : 1 :
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%
LN4955	VOLTAGE REGULATOR DIODE
030 : 626 :	N/R : N/R : N/R : N/R : PASS : 15300 : 1 :
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%
LN4956	VOLTAGE REGULATOR DIODE
030 : 627 :	N/R : N/R : N/R : N/R : PASS : 15300 : 1 :
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%
LN4957	VOLTAGE REGULATOR DIODE
030 : 628 :	N/R : N/R : N/R : N/R : PASS : 15300 : 1 :
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%
LN4958	VOLTAGE REGULATOR DIODE
030 : 629 :	N/R : N/R : N/R : N/R : PASS : 15300 : 1 :
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%
LN4959	VOLTAGE REGULATOR DIODE
030 : 630 :	N/R : N/R : N/R : N/R : PASS : 15300 : 1 :
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%
LN4960	VOLTAGE REGULATOR DIODE
030 : 631 :	N/R : N/R : N/R : N/R : PASS : 15300 : 1 :
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%
LN4961	VOLTAGE REGULATOR DIODE
030 : 632 :	N/R : N/R : N/R : N/R : PASS : 15300 : 1 :
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%
LN4962	VOLTAGE REGULATOR DIODE
030 : 633 :	N/R : N/R : N/R : N/R : PASS : 15300 : 1 :
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%
LN4963	VOLTAGE REGULATOR DIODE
030 : 634 :	N/R : N/R : N/R : N/R : PASS : 15300 : 1 :
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

DEVICE TYPE: DIODES
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION	SRC. : SEQ. : CODE : NUM. :	MANUFACTURER	DATE : TEST : : CODE : DATE :	RES. : (OHMS) :	CAP. : PULSES : TYPE :	RESULT : VOLTAGE : DEV. :	NUM. : PIN COMBINATION
1N4971	VOLTAGE REGULATOR DIODE							
030 : 635 :	N/R :	N/R :	N/R :	N/R :	1500 :	100 PF :	1 : N/R : PASS :	15300 : 1 : N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%							
1N4972	VOLTAGE REGULATOR DIODE							
030 : 636 :	N/R :	N/R :	N/R :	N/R :	1500 :	100 PF :	1 : N/R : PASS :	15300 : 1 : N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%							
1N4974	VOLTAGE REGULATOR DIODE							
030 : 637 :	N/R :	N/R :	N/R :	N/R :	1500 :	100 PF :	1 : N/R : PASS :	15300 : 1 : N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%							
1N4976	VOLTAGE REGULATOR DIODE							
030 : 638 :	N/R :	N/R :	N/R :	N/R :	1500 :	100 PF :	1 : N/R : PASS :	15300 : 1 : N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%							
1N4979	VOLTAGE REGULATOR DIODE							
030 : 639 :	N/R :	N/R :	N/R :	N/R :	1500 :	100 PF :	1 : N/R : PASS :	15300 : 1 : N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%							
1N5139A	VARIABLE CAPACITANCE DIODE (VARACTOR)							
232 : 24 :	N/R :	N/R :	N/R :	N/R :	1500 :	100 PF :	1 : N/R : FAIL :	5600 : 1 : N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)							
026 : 24 :	MOTOROLA SEMI :	N/R :	N/R :	N/R :	JAN 78 : 100 :	200 PF :	1 : SS : FAIL :	513 : 4 : C(+) A(-)
	REMARK: VOLTAGE IS AN AVERAGE OF 4 DEVICES				FAILURE CRITERIA: IL AT VR = 50V +1000% CHANGE			
1N5140A	VARIABLE CAPACITANCE DIODE (VARACTOR)							
232 : 25 :	N/R :	N/R :	N/R :	N/R :	1500 :	100 PF :	1 : N/R : FAIL :	7010 : 1 : N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)							
1N5144A	VARIABLE CAPACITANCE DIODE (VARACTOR)							
232 : 26 :	N/R :	N/R :	N/R :	N/R :	1500 :	100 PF :	1 : N/R : FAIL :	11090 : 1 : N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)							
1N5148A	VARIABLE CAPACITANCE DIODE (VARACTOR)							
232 : 27 :	N/R :	N/R :	N/R :	N/R :	1500 :	100 PF :	1 : N/R : FAIL :	16758 : 1 : N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)							
1N5187	SWITCHING DIODE							
232 : 28 :	N/R :	N/R :	N/R :	N/R :	1500 :	100 PF :	1 : N/R : FAIL :	68381 : 1 : N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)							

DEVICE TYPE: DIODES
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION	SRC. : SEQ. : CODE : NUM. :	MANUFACTURER	FULL PART NUM. :	DATE : TEST : CODE : DATE :	RES. : (OHMS) :	CAP. : (SUPERSAP 2)	PULSES : TYPE : NUMBER : TEST :	VOLTAGE : RESULT :	DEV. : PIN COMBINATION
1N5188	SWITCHING DIODE									
232 : 29 :	N/R			N/R	N/R	1500	100 PF	1	N/R	75226 : 1 : N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)										
1N5190	SWITCHING DIODE									
232 : 30 :	N/R			N/R	N/R	1500	100 PF	1	N/R	74897 : 1 : N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)										
1N5233	ZENER DIODE									
029 : 194 :	MOTOROLA SEMI			N/R	N/R	1500	100 PF	1	N/R	84112 : 1 : N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.										
1N5285	CURRENT REGULATOR DIODE									
026 : 23 :	MOTOROLA SEMI			N/R	N/R	100	200 PF	1	SS	1950 : 4 : A(+) C(-)
REMARK: VOLTAGE IS AN AVERAGE OF 4 DEVICES FAILURE CRITERIA: IL AT VR = 50V +1000Z CHANGE										
1N5287	CURRENT REGULATOR DIODE									
029 : 195 :	MOTOROLA SEMI			N/R	N/R	1500	100 PF	1	N/R	104875 : 1 : N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.										
1N5291	CURRENT REGULATOR DIODE									
030 : 640 :	N/R			N/R	N/R	1500	100 PF	1	N/R	15300 : 1 : N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10Z										
1N5356	ZENER DIODE									
029 : 196 :	MOTOROLA SEMI			N/R	N/R	1500	100 PF	1	N/R	156131 : 1 : N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.										
1N537	GENERAL PURPOSE DIODE									
029 : 197 :	TEXAS INSTRUMENTS			N/R	N/R	1500	100 PF	1	N/R	16914 : 1 : N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.										
1N5378	ZENER DIODE									
029 : 198 :	MOTOROLA SEMI			N/R	N/R	1500	100 PF	1	N/R	17904 : 1 : N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.										
1N5388	GENERAL PURPOSE DIODE									
029 : 199 :	GENERAL INSTRUMENTS			N/R	N/R	1500	100 PF	1	N/R	78542 : 1 : N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.										

DEVICE TYPE: DIODES
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION	SRC. : SEQ. : CODE : NUM. :	MANUFACTURER	FULL PART NUM. :	DATE : TEST : : CODE : DATE : (OHMS) :	RES. : CAP. :	PULSES : TYPE : RESULT :	TEST : VOLTAGE :	DEV. : PIN COMBINATION
1N5391	GENERAL PURPOSE DIODE								
029	200 : TEXAS INSTRUMENTS			N/R	N/R : N/R : 1500 :	100 PF :	1 :	N/R : FAIL : 17121 :	1 : N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.								
1N540	GENERAL PURPOSE DIODE								
029	201 : TEXAS INSTRUMENTS			N/R	N/R : N/R : 1500 :	100 PF :	1 :	N/R : FAIL : 14985 :	1 : N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.								
1N5416	SWITCHING DIODE								
232	31 : N/R			N/R	N/R : N/R : 1500 :	100 PF :	1 :	N/R : FAIL : 64333 :	1 : N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)								
1N5417	FAST RECOVERY RECTIFIER								
030	698 : N/R			N/R	N/R : N/R : 1500 :	100 PF :	1 :	N/R : FAIL : 6000 :	1 : N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%								
232	32 : N/R			N/R	N/R : N/R : 1500 :	100 PF :	1 :	N/R : FAIL : 62028 :	1 : N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)								
1N5419	FAST RECOVERY RECTIFIER								
232	33 : N/R			N/R	N/R : N/R : 1500 :	100 PF :	1 :	N/R : FAIL : 62087 :	1 : N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)								
026	21 : N/R			N/R	N/R : JAN 78 : 100 :	200 PF :	1 :	SS : FAIL : 6000 :	4 : C(+) A(-)
	REMARK: VOLTAGE IS AN AVERAGE OF 4 DEVICES				FAILURE CRITERIA: IL AT VR = 50V +1000% CHANGE				
1N5420	SWITCHING DIODE								
030	641 : N/R			N/R	N/R : N/R : 1500 :	100 PF :	1 :	N/R : PASS : 15300 :	1 : N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%								
030	699 : N/R			N/R	N/R : N/R : 1500 :	100 PF :	1 :	N/R : FAIL : 9000 :	1 : N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%								
1N5463B	VARIABLE CAPACITANCE DIODE (VARACTOR)								
232	34 : N/R			N/R	N/R : N/R : 1500 :	100 PF :	1 :	N/R : FAIL : 5465 :	1 : N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)								
1N5467B	VARIABLE CAPACITANCE DIODE (VARACTOR)								
232	35 : N/R			N/R	N/R : N/R : 1500 :	100 PF :	1 :	N/R : FAIL : 8126 :	1 : N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)								
1N547	GENERAL PURPOSE DIODE								
029	202 : TEXAS INSTRUMENTS			N/R	N/R : N/R : 1500 :	100 PF :	1 :	N/R : FAIL : 76707 :	1 : N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.								

DEVICE TYPE: DIODES
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION	SRC. : SEQ. : CODE : NUM. :	MANUFACTURER	FULL PART NUM. :	DATE : TEST : CODE : (OHMS) :	NUMBER : TEST : PULSES : TYPE : RESULT :	NUM. : VOLTAGE : DEV. : PIN COMBINATION
1N5476B	VARIABLE CAPACITANCE DIODE (VARACTOR)						
232 : 36 :	N/R : N/R : N/R : 1500 : 100 PF :						N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)						
1N5523B	VOLTAGE REGULATOR DIODE						
030 : 700 :	N/R : N/R : N/R : 1500 : 100 PF :						N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%						
1N553	SWITCHING DIODE						
232 : 39 :	N/R : N/R : N/R : 1500 : 100 PF :						N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)						
1N5550	SWITCHING DIODE						
232 : 37 :	N/R : N/R : N/R : 1500 : 100 PF :						N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)						
1N5552	POWER RECTIFIER						
030 : 642 :	N/R : N/R : N/R : 1500 : 100 PF :						N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%						
232 : 38 :	N/R : N/R : N/R : 1500 : 100 PF :						N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)						
1N55521	SWITCHING DIODE						
029 : 203 :	SEMTECH CORP. : N/R : N/R : 1500 : 100 PF :						N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.						
1N5554	SWITCHING DIODE						
232 : 40 :	N/R : N/R : N/R : 1500 : 100 PF :						N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)						
1N5555	TRANSIENT SUPPRESSOR DIODE						
030 : 643 :	N/R : N/R : N/R : 1500 : 100 PF :						N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%						
1N5556	TRANSIENT SUPPRESSOR DIODE						
029 : 204 :	GENERAL SEMICONDUCTOR : N/R : N/R : 1500 : 100 PF :						N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.						
1N5558	TRANSIENT SUPPRESSOR DIODE						
030 : 644 :	N/R : N/R : N/R : 1500 : 100 PF :						N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%						

DEVICE TYPE: DIODES
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION	SRC. : SEQ. : CODE : NUM. :	MANUFACTURER	FULL PART NUM. :	DATE : TEST : RES. : : CODE : (OHMS) :	CAP. : PULSES : TYPE : RESULT : VOLTAGE: DEV. :	NUMBER : TEST : : : NUM. :	PIN COMBINATION
1N5614	POWER RECTIFIER							
030 : 645 :	N/R			N/R	N/R : 1500 : 100 PF :	1 : N/R : FAIL : 8000 :	1 :	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%							
232 : 41 :	N/R			N/R	N/R : 1500 : 100 PF :	1 : N/R : FAIL : 23868 :	1 :	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)							
1N56141	SWITCHING DIODE							
029 : 205 :	SEMTECH CORP.			N/R	N/R : 1500 : 100 PF :	1 : N/R : FAIL : 11990 :	1 :	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.							
1N5615	POWER RECTIFIER							
030 : 646 :	N/R			N/R	N/R : 1500 : 100 PF :	1 : N/R : FAIL : 9000 :	1 :	N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%							
232 : 42 :	N/R			N/R	N/R : 1500 : 100 PF :	1 : N/R : FAIL : 23868 :	1 :	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)							
1N5616	SWITCHING DIODE							
232 : 43 :	N/R			N/R	N/R : 1500 : 100 PF :	1 : N/R : FAIL : 24771 :	1 :	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)							
1N56161	SWITCHING DIODE							
029 : 206 :	SEMTECH CORP.			N/R	N/R : 1500 : 100 PF :	1 : N/R : FAIL : 11403 :	1 :	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.							
1N5617	SWITCHING DIODE							
232 : 44 :	N/R			N/R	N/R : 1500 : 100 PF :	1 : N/R : FAIL : 24771 :	1 :	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)							
1N5618	SWITCHING DIODE							
232 : 45 :	N/R			N/R	N/R : 1500 : 100 PF :	1 : N/R : FAIL : 21703 :	1 :	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)							
1N5619	SWITCHING DIODE							
232 : 46 :	N/R			N/R	N/R : 1500 : 100 PF :	1 : N/R : FAIL : 21703 :	1 :	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)							
1N5622	SWITCHING DIODE							
232 : 47 :	N/R			N/R	N/R : 1500 : 100 PF :	1 : N/R : FAIL : 15868 :	1 :	N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)							

DEVICE TYPE: DIODES
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

SAC. : SEQ. : : DATE : TEST : RES. : : NUMBER : TEST : : : NUM. :
CODE : NUM. : MANUFACTURER : FULL PART NUM. : : CODE : DATE : (OHMS) : CAP. : PULSES : TYPE : RESULT : VOLTAGE : DEV. : PIN COMBINATION

1N5623 SWITCHING DIODE

232 : 48 : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 17775 : 1 : N/R

REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)

1N5711 SCHOTTKY BARRIER (HOT CARRIER) DIODE

030 : 647 : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 2500 : 1 : N/R

FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

232 : 49 : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 2452 : 1 : N/R

REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)

277 : 1 : HEWLETT PACKARD : N/R : 8016 : N/R : 1500 : 100 PF : 200 : GN : PASS : 275 : 1 : C(+) A(-)

FAILURE CRITERIA: IR AND/OR VB OUT OF SPEC.

278 : 1 : HEWLETT PACKARD : N/R : 8016 : N/R : 1500 : 100 PF : 65 : GN : PASS : 300 : 1 : C(+) A(-)

FAILURE CRITERIA: IR AND/OR VB OUT OF SPEC.

278 : 2 : HEWLETT PACKARD : N/R : 8016 : N/R : 1500 : 100 PF : 500 : GN : PASS : 300 : 1 : C(+) A(-)

FAILURE CRITERIA: IR AND/OR VB OUT OF SPEC.

278 : 3 : HEWLETT PACKARD : N/R : 8016 : N/R : 1500 : 100 PF : 500 : GN : PASS : 300 : 8 : C(+) A(-)

FAILURE CRITERIA: IR AND/OR VB OUT OF SPEC.

278 : 4 : HEWLETT PACKARD : N/R : 8016 : N/R : 1500 : 100 PF : 1 : GN : FAIL : 300 : 1 : C(+) A(-)

FAILURE CRITERIA: IR AND VB OUT OF SPEC.

278 : 5 : HEWLETT PACKARD : N/R : 8016 : N/R : 1500 : 100 PF : 500 : GN : FAIL : 300 : 1 : C(+) A(-)

FAILURE CRITERIA: IR AND VB OUT OF SPEC.

279 : 1 : HEWLETT PACKARD : N/R : 8016 : N/R : 1500 : 100 PF : 10 : GN : FAIL : 325 : 1 : C(+) A(-)

FAILURE CRITERIA: IR AND VB OUT OF SPEC.

279 : 2 : HEWLETT PACKARD : N/R : 8016 : N/R : 1500 : 100 PF : 50 : GN : FAIL : 325 : 1 : C(+) A(-)

FAILURE CRITERIA: IR AND VB OUT OF SPEC.

280 : 1 : HEWLETT PACKARD : N/R : 8016 : N/R : 1500 : 100 PF : 37 : GN : FAIL : 350 : 1 : C(+) A(-)

FAILURE CRITERIA: IR AND VB OUT OF SPEC.

280 : 2 : HEWLETT PACKARD : N/R : 8016 : N/R : 1500 : 100 PF : 75 : GN : FAIL : 350 : 1 : C(+) A(-)

FAILURE CRITERIA: IR AND/OR VB OUT OF SPEC.

281 : 1 : HEWLETT PACKARD : N/R : 8016 : N/R : 1500 : 100 PF : 2 : GN : FAIL : 375 : 1 : C(+) A(-)

FAILURE CRITERIA: IR AND VB OUT OF SPEC.

282 : 1 : HEWLETT PACKARD : N/R : 8016 : N/R : 1500 : 100 PF : 7 : GN : FAIL : 400 : 1 : C(+) A(-)

FAILURE CRITERIA: IR AND VB OUT OF SPEC.

282 : 2 : HEWLETT PACKARD : N/R : 8016 : N/R : 1500 : 100 PF : 1 : GN : FAIL : 400 : 2 : C(+) A(-)

FAILURE CRITERIA: IR AND VB OUT OF SPEC.

282 : 3 : HEWLETT PACKARD : N/R : 8016 : N/R : 1500 : 100 PF : 8 : GN : FAIL : 400 : 1 : C(+) A(-)

FAILURE CRITERIA: IR AND VB OUT OF SPEC.

282 : 4 : HEWLETT PACKARD : N/R : 8016 : N/R : 1500 : 100 PF : 9 : GN : FAIL : 400 : 1 : C(+) A(-)

FAILURE CRITERIA: IR AND VB OUT OF SPEC.

282 : 5 : HEWLETT PACKARD : N/R : 8016 : N/R : 1500 : 100 PF : 20 : GN : FAIL : 400 : 1 : C(+) A(-)

FAILURE CRITERIA: VB OUT OF SPEC.

282 : 6 : HEWLETT PACKARD : N/R : 8016 : N/R : 1500 : 100 PF : 25 : GN : FAIL : 400 : 2 : C(+) A(-)

FAILURE CRITERIA: IR AND VB OUT OF SPEC.

282 : 7 : HEWLETT PACKARD : N/R : 8016 : N/R : 1500 : 100 PF : 60 : GN : FAIL : 400 : 1 : C(+) A(-)

FAILURE CRITERIA: IR AND VB OUT OF SPEC.

282 : 8 : HEWLETT PACKARD : N/R : 8016 : N/R : 1500 : 100 PF : 125 : GN : FAIL : 400 : 1 : C(+) A(-)

FAILURE CRITERIA: IR AND VB OUT OF SPEC.

282 : 9 : HEWLETT PACKARD : N/R : 8016 : N/R : 1500 : 100 PF : 200 : GN : FAIL : 400 : 1 : C(+) A(-)

FAILURE CRITERIA: IR AND VB OUT OF SPEC.

DEVICE TYPE: DIODES
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

SRC. : SEQ. :	MANUFACTURER :	FULL PART NUM. :	DATE :	TEST :	RES. :	CAP. :	NUMER :	TEST :	VOLTAGE :	DEV. :	PIN COMBINATION :
CODE : NUM. :			DATE :	TEST :	RES. :	CAP. :	PULSES :	TYPE :	RESULT :		
1N5711	(CONTINUED)	SCHOTTKY BARRIER (HOT CARRIER) DIODE									
283 :	1 : HEWLETT PACKARD :	N/R	8016 :	N/R :	1500 :	100 PF :	5 :	GN :	FAIL :	450 :	1 : C(+) A(-)
	FAILURE CRITERIA: IR AND VB OUT OF SPEC.										
283 :	2 : HEWLETT PACKARD :	N/R	8016 :	N/R :	1500 :	100 PF :	10 :	GN :	FAIL :	450 :	2 : C(+) A(-)
	FAILURE CRITERIA: IR AND VB OUT OF SPEC.										
283 :	3 : HEWLETT PACKARD :	N/R	8016 :	N/R :	1500 :	100 PF :	2 :	GN :	FAIL :	450 :	1 : C(+) A(-)
	FAILURE CRITERIA: IR AND VB OUT OF SPEC.										
283 :	4 : HEWLETT PACKARD :	N/R	8016 :	N/R :	1500 :	100 PF :	20 :	GN :	FAIL :	450 :	1 : C(+) A(-)
	FAILURE CRITERIA: IR AND VB OUT OF SPEC.										
284 :	1 : HEWLETT PACKARD :	N/R	8016 :	N/R :	1500 :	100 PF :	1 :	GN :	FAIL :	500 :	1 : C(+) A(-)
	FAILURE CRITERIA: IR AND VB OUT OF SPEC.										
284 :	2 : HEWLETT PACKARD :	N/R	8016 :	N/R :	1500 :	100 PF :	4 :	GN :	FAIL :	500 :	1 : C(+) A(-)
	FAILURE CRITERIA: IR AND VB OUT OF SPEC.										
284 :	3 : HEWLETT PACKARD :	N/R	8016 :	N/R :	1500 :	100 PF :	1 :	GN :	FAIL :	500 :	4 : C(+) A(-)
	FAILURE CRITERIA: IR AND VB OUT OF SPEC.										
284 :	4 : HEWLETT PACKARD :	N/R	8016 :	N/R :	1500 :	100 PF :	3 :	GN :	FAIL :	500 :	1 : C(+) A(-)
	FAILURE CRITERIA: IR OUT OF SPEC.										
284 :	5 : HEWLETT PACKARD :	N/R	8016 :	N/R :	1500 :	100 PF :	3 :	GN :	FAIL :	500 :	1 : C(+) A(-)
	FAILURE CRITERIA: IR AND VB OUT OF SPEC.										
284 :	6 : HEWLETT PACKARD :	N/R	8016 :	N/R :	1500 :	100 PF :	5 :	GN :	FAIL :	500 :	3 : C(+) A(-)
	FAILURE CRITERIA: IR AND VB OUT OF SPEC.										
284 :	7 : HEWLETT PACKARD :	N/R	8016 :	N/R :	1500 :	100 PF :	9 :	GN :	FAIL :	500 :	1 : C(+) A(-)
	FAILURE CRITERIA: IR AND VB OUT OF SPEC.										
285 :	1 : HEWLETT PACKARD :	N/R	8016 :	N/R :	1500 :	100 PF :	2 :	GN :	FAIL :	550 :	1 : C(+) A(-)
	FAILURE CRITERIA: IR AND VB OUT OF SPEC.										
285 :	2 : HEWLETT PACKARD :	N/R	8016 :	N/R :	1500 :	100 PF :	3 :	GN :	FAIL :	550 :	1 : C(+) A(-)
	FAILURE CRITERIA: IR AND VB OUT OF SPEC.										
285 :	3 : HEWLETT PACKARD :	N/R	8016 :	N/R :	1500 :	100 PF :	8 :	GN :	FAIL :	550 :	1 : C(+) A(-)
	FAILURE CRITERIA: IR AND VB OUT OF SPEC.										
286 :	1 : HEWLETT PACKARD :	N/R	8016 :	N/R :	1500 :	100 PF :	1 :	GN :	FAIL :	560 :	5 : C(+) A(-)
	FAILURE CRITERIA: IR AND/OR VB OUT OF SPEC.										
286 :	2 : HEWLETT PACKARD :	N/R	8016 :	N/R :	1500 :	100 PF :	1 :	GN :	FAIL :	560 :	5 : C(+) A(-)
	FAILURE CRITERIA: IR AND/OR VB OUT OF SPEC.										
287 :	1 : HEWLETT PACKARD :	N/R	8016 :	N/R :	1500 :	100 PF :	1 :	GN :	FAIL :	600 :	1 : C(+) A(-)
	FAILURE CRITERIA: IR AND/OR VB OUT OF SPEC.										
287 :	2 : HEWLETT PACKARD :	N/R	8016 :	N/R :	1500 :	100 PF :	2 :	GN :	FAIL :	600 :	2 : C(+) A(-)
	FAILURE CRITERIA: IR AND/OR VB OUT OF SPEC.										
287 :	3 : HEWLETT PACKARD :	N/R	8016 :	N/R :	1500 :	100 PF :	1 :	GN :	FAIL :	600 :	6 : C(+) A(-)
	FAILURE CRITERIA: IR AND/OR VB OUT OF SPEC.										
287 :	4 : HEWLETT PACKARD :	N/R	8016 :	N/R :	1500 :	100 PF :	3 :	GN :	FAIL :	600 :	2 : C(+) A(-)
	FAILURE CRITERIA: IR AND VB OUT OF SPEC.										
287 :	5 : HEWLETT PACKARD :	N/R	8016 :	N/R :	1500 :	100 PF :	5 :	GN :	FAIL :	600 :	1 : C(+) A(-)
	FAILURE CRITERIA: IR AND VB OUT OF SPEC.										
287 :	6 : HEWLETT PACKARD :	N/R	8016 :	N/R :	1500 :	100 PF :	8 :	GN :	FAIL :	600 :	1 : C(+) A(-)
	FAILURE CRITERIA: IR AND VB OUT OF SPEC.										
289 :	1 : HEWLETT PACKARD :	N/R	8016 :	N/R :	1500 :	100 PF :	1 :	GN :	FAIL :	630 :	7 : C(+) A(-)
	FAILURE CRITERIA: IR AND VB OUT OF SPEC.										
289 :	2 : HEWLETT PACKARD :	N/R	8016 :	N/R :	1500 :	100 PF :	1 :	GN :	PASS :	630 :	3 : C(+) A(-)
	FAILURE CRITERIA: IR AND VB OUT OF SPEC.										

[illegible]

IN5711 (CONTINUED) SCHOTTKY BARRIER (HOT CARRIER) DIODE

IN5712 SCHOTTKY BARRIER (HOT CARRIER) DIODE

1N64 GENERAL PURPOSE DIODE

1N643A SWITCHING DIODE

DEVICE TYPE: DIODES
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION	SRC. : SEQ. : CODE : NUM. :	MANUFACTURER	FULL PART NUM.	DATE : TEST : RES. : : CODE : (OHMS) :	CAP. : : :	PULSES : TYPE : RESULT : : : : VOLTAGE : DEV. :	NUM. : : :	PIN COMBINATION
GENERAL PURPOSE DIODE									
1N645									
029	ITT SEMICONDUCTOR			N/R	N/R	1500	100 PF	1	N/R : FAIL : 16543 : 1 : N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.								
029	TEXAS INSTRUMENTS			N/R	N/R	1500	100 PF	1	N/R : FAIL : 13591 : 1 : N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.								
030	685			N/R	N/R	1500	100 PF	1	N/R : FAIL : 3800 : 1 : N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%								
LOW POWER RECTIFIER									
1N645-1									
030	579			N/R	N/R	1500	100 PF	1	N/R : FAIL : 3800 : 1 : N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%								
1N646									
029	211 : TEXAS INSTRUMENTS			N/R	N/R	1500	100 PF	1	N/R : FAIL : 32048 : 1 : N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.								
LOW POWER RECTIFIER									
1N647									
029	212 : TEXAS INSTRUMENTS			N/R	N/R	1500	100 PF	1	N/R : FAIL : 41545 : 1 : N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.								
232	52 : N/R			N/R	N/R	1500	100 PF	1	N/R : FAIL : 21384 : 1 : N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)								
LOW POWER RECTIFIER									
1N647-1									
030	580			N/R	N/R	1500	100 PF	1	N/R : FAIL : 3800 : 1 : N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%								
1N6471									
029	214 : TRW			N/R	N/R	1500	100 PF	1	N/R : FAIL : 41067 : 1 : N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.								
LOW POWER RECTIFIER									
1N649									
232	53 : N/R			N/R	N/R	1500	100 PF	1	N/R : FAIL : 7187 : 1 : N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)								
SWITCHING DIODE									
1N658									
029	345 : FAIRCHILD SEMI			N/R	N/R	1500	100 PF	1	N/R : FAIL : 22818 : 1 : N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.								
1N6601									
029	215 : FAIRCHILD SEMI			N/R	N/R	1500	100 PF	1	N/R : FAIL : 7597 : 1 : N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.								

[illegible]

SRC. : SEQ.:	:	DATE :	TEST :	RES. :	:	NUMBER :	TEST :	:	NUM. :
CODE : NUM.:	:	CODE :	DATE :	(OHMS):	:	CAP. :	PULSES :	TYPE :	VOLTAGE: DEV. :
MANUFACTURER	:	FULL PART NUM.	CODE :	DATE :	:	CAP. :	PULSES :	TYPE :	VOLTAGE: DEV. :
	:				:				PIN COMBINATION

1N661 SWITCHING DIODE

029 : 216 : TEXAS INSTRUMENTS : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 12421 : 1 : N/R

REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.

REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.

IN6621 SWITCHING MODE

029 : 217 : FAIRCHILD SEMI : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 10893 : 1 : N/R

REMARK: FAILURE VOLTAGE OBTAINED FROM EHP DATA AND EXPONENTIAL MODEL.

REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL:

IN702A ZENER DIODE

029 : 218 : TEXAS INSTRUMENTS : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 29131 : 1 :
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.

REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.

1N711A ZENER DIODE

029 : 219 : CENTRALAB : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 42034 : 1 : N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.

REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL:

1N746A VOLTAGE REGULATOR DIODE

029 :	220 :	NUCLEONIC PROD :	N/T :	N/R :	1500 :	100 PF :	1 :	N/R :	FAIL :	35364 :	1 :	N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												

REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL:

1N750A VOLTAGE REGULATOR DIODE

029	: 221 : TEXAS INSTRUMENTS	:	N/R	:	N/R	:	1500	:	N/R	:	100 PF	:	1	:	N/R	:	FAIL	:	50167	:	1	:	N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.																							

REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL:

030 : 581 : N/R : N/R : N/R :

1N751A VOLTAGE REGULATOR DIODE

029	:	222	:	TEXAS INSTRUMENTS	:	N/R	:	N/R	:	1500	:	100 PF	:	1	:	N/R	:	FAIL	:	318002	:	1	:	N/R	
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.																									

REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL:

029 : 223 : TEXAS INSTRUMENTS

030 : 582 : N/R : N/R : 1500 : 100 PF : 1 : N/R : PASS : 15300 : 1 : N/R

FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

VOLTAGE REGULATOR DIODE

029 : 224 : TRANSITION ELEC. CORP. : N/R : N/R : N/R :
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPOSURE

[illegible][illegible]

1N753A VOLTAGE REGULATOR DIODE

U29	:	225 :	TRANSITION ELEC. CORP. :	N/R :	N/R :	1500 :	100 PF :	1 :	N/R : FAIL :	111218 :	1 :	N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												
U30	:	686 :	N/R :	N/R :	N/R :	1500 :	100 PF :	1 :	N/R : FAIL :	15000 :	1 :	N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%												

1N753A-1
VOLTAGE REGULATOR DIODE

030 : 584 : N/R : N/R : 1500 : 100 PF : 1 : N/R : PASS : 15300 : 1 : N/R

1N754A
VOLTAGE REGULATOR DIODE

029 :	226 :	NUCLEONIC PROD :	N/R :	N/R :	1500 :	100 PF :	1 :	N/R :	FAIL :	31542 :	1 :	N/R :
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												

1N754A-1
VOLTAGE REGULATOR DIODE

030 : 585 : N/R : N/R : 1500 : 100 PF : 1 : N/R : PASS : 15300 : 1 : N/R

1N755A
VOLTAGE REGULATOR DIODE

029 : 227 : TRANSITION ELEC. CORP. : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 131406 : 1 : N/R

REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.

1N755A-1 VOLTAGE REGULATOR DIODE

030 : 586 : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : PASS : 15300 : 1 : N/R

1N756 VOLTAGE REGULATOR DIODE

J29	: 228	: TRW	:	N/R	:	N/R	:	N/R	:	1500	:	100 PF	:	1	:	N/R	:	FAIL	:	134666	:	1	:	N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.																								

1N756A
VOLTAGE REGULATOR DIODE

030	: 587 :	N/R	:	N/R	:	N/R	:	1500	:	N/R	:	100 PF	:	1	:	N/R	:	PASS	:	15300	:	1	:	N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%																								

1N756A-1 VOLTAGE REGULATOR DIODE

030	:	588	:	N/R	:	N/R	:	N/R	:	1500	:	100	:	PF	:	1	:	N/R	:	PASS	:	15300	:	1	:	N/R
FATLUPF CRITERIA: PARAMETER CHANCE OF GREATER THAN 10%																										

1N757A VOLTAGE REGULATOR DIODE

U29	: 229 :	TRANSITION ELEC. CORP. :	N/R :	N/R :	1500 :	100 PF :	1 :	N/R :	FAIL :	77547 :	1 :	N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.												

DEVICE TYPE: DIODES
(CONTINUED)

BASIC PART NUMBER		DESCRIPTION															
SRC. : SEQ. : CODE : NUM. :	MANUFACTURER	FULL PART NUM. :	DATE :	TEST :	RES. :	NUMBER :	TEST :	NUM. :	PULSES :	TYPE :	RESULT :	VOLTAGE :	DEV. :	PIN COMBINATION			
1N757A (CONTINUED) VOLTAGE REGULATOR DIODE																	
030	: 589 :	N/R	:	N/R	:	N/R	:	1500	:	100 PF	:	1	:	N/R	:	PASS : 15300 : 1 : N/R	
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%																	
1N757A-1 VOLTAGE REGULATOR DIODE																	
030	: 590 :	N/R	:	N/R	:	N/R	:	1500	:	100 PF	:	1	:	N/R	:	PASS : 15300 : 1 : N/R	
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%																	
1N758A VOLTAGE REGULATOR DIODE																	
029	: 230 :	TRANSITION ELEC. CORP. :	N/R	:	N/R	:	N/R	:	1500	:	100 PF	:	1	:	N/R	:	FAIL : 76779 : 1 : N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.																	
030	: 591 :	N/R	:	N/R	:	N/R	:	1500	:	100 PF	:	1	:	N/R	:	PASS : 15300 : 1 : N/R	
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%																	
1N758A-1 VOLTAGE REGULATOR DIODE																	
030	: 592 :	N/R	:	N/R	:	N/R	:	1500	:	100 PF	:	1	:	N/R	:	PASS : 15300 : 1 : N/R	
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%																	
1N759A VOLTAGE REGULATOR DIODE																	
030	: 593 :	N/R	:	N/R	:	N/R	:	1500	:	100 PF	:	1	:	N/R	:	PASS : 15300 : 1 : N/R	
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%																	
1N759A-1 VOLTAGE REGULATOR DIODE																	
030	: 594 :	N/R	:	N/R	:	N/R	:	1500	:	100 PF	:	1	:	N/R	:	PASS : 15300 : 1 : N/R	
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%																	
1N763-2 ZENER DIODE																	
029	: 231 :	DICKSON ELEC. CORP. :	N/R	:	N/R	:	N/R	:	1500	:	100 PF	:	1	:	N/R	:	FAIL : 51343 : 1 : N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.																	
1N78BI MICROWAVE DIODES																	
029	: 232 :	ALPHA INDUSTRIES	:	N/R	:	N/R	:	1500	:	100 PF	:	1	:	N/R	:	FAIL : 828 : 1 : N/R	
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.																	
1N78C1 MICROWAVE DIODES																	
029	: 233 :	ALPHA INDUSTRIES	:	N/R	:	N/R	:	1500	:	100 PF	:	1	:	N/R	:	FAIL : 1334 : 1 : N/R	
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.																	
1N78D1 MICROWAVE DIODES																	
029	: 234 :	ALPHA INDUSTRIES	:	N/R	:	N/R	:	1500	:	100 PF	:	1	:	N/R	:	FAIL : 1266 : 1 : N/R	
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.																	

DEVICE TYPE: DIODES
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION	SRC. : SEQ. : CODE : NUM. :	MANUFACTURER	FULL PART NUM. :	DATE : TEST : RES. : CODE : DATE : (OHMS) :	CAP. : PULSES : TYPE : RESULT : CAP. : PULSES : TYPE : RESULT :	NUM. : DEV. :	PIN COMBINATION
1N781	MICROWAVE DIODES							
029 : 235 : 494				N/R : N/R : 1500 : 100 PF :	1 : N/R : FAIL : 1033 :	1 :		N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.							
1N816	VOLTAGE REGULATOR DIODE							
029 : 236 :	TRANSITION ELEC. CORP. :			N/R : N/R : 1500 : 100 PF :	1 : N/R : FAIL : 36252 :	1 :		N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.							
1N8161	GENERAL PURPOSE DIODE							
029 : 237 :	ITT SEMICONDUCTOR :			N/R : N/R : 1500 : 100 PF :	1 : N/R : FAIL : 67756 :	1 :		N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.							
1N82A	POINT CONTACT DIODE							
029 : 238 :	NUCLEONIC PROD :			N/R : N/R : 1500 : 100 PF :	1 : N/R : FAIL : 579 :	1 :		N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.							
1N82A1	POINT CONTACT DIODE							
029 : 239 :	ALPHA INDUSTRIES :			N/R : N/R : 1500 : 100 PF :	1 : N/R : FAIL : 1200 :	1 :		N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.							
1N821	VOLTAGE REFERENCE DIODE							
029 : 240 :	N/R :			N/R : N/R : 1500 : 100 PF :	1 : N/R : FAIL : 165166 :	1 :		N/R
030 : 595 :	N/R :			N/R : N/R : 1500 : 100 PF :	1 : N/R : PASS : 15300 :	1 :		N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%							
1N823	VOLTAGE REFERENCE DIODE							
029 : 241 :	TRANSITION ELEC. CORP. :			N/R : N/R : 1500 : 100 PF :	1 : N/R : FAIL : 39731 :	1 :		N/R
030 : 596 :	N/R :			N/R : N/R : 1500 : 100 PF :	1 : N/R : PASS : 15300 :	1 :		N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%							
1N827	VOLTAGE REFERENCE DIODE							
026 : 19 :	N/R :			N/R : N/R : 1500 : 100 PF :	1 : SS : FAIL : 6000 :	4 :		C(+) A(-)
	REMARK: VOLTAGE IS AN AVERAGE OF 4 DEVICES							
1N829	VOLTAGE REFERENCE DIODE							
030 : 597 :	N/R :			N/R : N/R : 1500 : 100 PF :	1 : N/R : PASS : 15300 :	1 :		N/R
232 : 54 :	N/R :			N/R : N/R : 1500 : 100 PF :	1 : N/R : FAIL : 9080 :	1 :		N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)							

DEVICE TYPE: DIODES
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION	SRC. : SEQ. : CODE : NUM. :	MANUFA-TURER	FULL PART NUM. :	DATE : TEST : CODE : DATE :	RES. : (OHMS) :	CAP. :	NUMBER : TEST : PULSES : TYPE :	RESULT: VOLTAGE: DEV. :	PIN COMBINATION
1N914	SWITCHING DIODE									
029	242 : TEXAS INSTRUMENTS			N/R	N/R	1500	100 PF	1	N/R : FAIL :	6256 : 1 :
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.									N/R
030	687 : N/R			N/R	N/R	1500	100 PF	1	N/R : FAIL :	11000 : 1 :
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%									
1N9141	SWITCHING DIODE									
029	243 : FAIRCHILD SEMI			N/R	N/R	1500	100 PF	1	N/R : FAIL :	3653 : 1 :
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.									N/R
1N916	SWITCHING DIODE									
048	2 : N/R			N/R	N/R	100	218 PF	1	SS : FAIL :	3000 : 1 :
	FAILURE CRITERIA: 50% DROP IN REVERSE VOLTAGE AT IR=5UA									N/R
1N931J	GENERAL PURPOSE DIODE									
029	244 : TRANSITION ELEC. CORP. :			N/R	N/R	1500	100 PF	1	N/R : FAIL :	5727 : 1 :
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.									N/R
1N938B	VOLTAGE REFERENCE DIODE									
232	55 : N/R			N/R	N/R	1500	100 PF	1	N/R : FAIL :	5827 : 1 :
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)									N/R
1N941B	SWITCHING DIODE									
030	688 : N/R			N/R	N/R	1500	100 PF	1	N/R : FAIL :	15000 : 1 :
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%									N/R
1N943B	VOLTAGE REFERENCE DIODE									
232	56 : N/R			N/R	N/R	1500	100 PF	1	N/R : FAIL :	26556 : 1 :
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)									N/R
1N944B	VOLTAGE REFERENCE DIODE									
232	57 : N/R			N/R	N/R	1500	100 PF	1	N/R : FAIL :	24770 : 1 :
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)									N/R
1N945B	VOLTAGE REFERENCE DIODE									
232	58 : N/R			N/R	N/R	1500	100 PF	1	N/R : FAIL :	17762 : 1 :
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)									N/R
1N956B1	VARIABLE CAPACITANCE DIODE (VARACTOR)									
029	245 : TRW			N/R	N/R	1500	100 PF	1	N/R : FAIL :	36551 : 1 :
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.									N/R

DEVICE TYPE: DIODES
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

SEQ. : CODE : NUM. :	SEQ. : CODE : NUM. :	MANUFACTURER	DATE : TEST : RES. :	TEST : DATE : CAP. :	NUMBER : PULSES : TYPE :	TEST : RESULT : VOLTAGE :	NUM. : DEV. : PIN COMBINATION
1N963B	029	DICKSON ELEC. CORP.	N/R	N/R	1500	100 PF	1 : N/R : FAIL : 84847 : 1 : N/R
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.					
1N964B	029	FAIRCHILD SEMI	N/R	N/R	1500	100 PF	1 : N/R : FAIL : 32725 : 1 : N/R
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.					
1N965B	029	DICKSON ELEC. CORP.	N/R	N/R	1500	100 PF	1 : N/R : FAIL : 18131 : 1 : N/R
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.					
1N965B-1	030	N/R	N/R	N/R	1500	100 PF	1 : N/R : PASS : 15300 : 1 : N/R
		FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%					
1N965B1	029	MOTOROLA SEMI	N/R	N/R	1500	100 PF	1 : N/R : FAIL : 39297 : 1 : N/R
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.					
1N967	029	MOTOROLA SEMI	N/R	N/R	1500	100 PF	1 : N/R : FAIL : 24615 : 1 : N/R
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.					
1N967B-1	030	N/R	N/R	N/R	1500	100 PF	1 : N/R : PASS : 15300 : 1 : N/R
		FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%					
1N968B	030	N/R	N/R	N/R	1500	100 PF	1 : N/R : FAIL : 15000 : 1 : N/R
		FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%					
1N970B	029	DICKSON ELEC. CORP.	N/R	N/R	1500	100 PF	1 : N/R : FAIL : 84360 : 1 : N/R
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.					
1N972B	029	DICKSON ELEC. CORP.	N/R	N/R	1500	100 PF	1 : N/R : FAIL : 120865 : 1 : N/R
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.					

DEVICE TYPE: DIODES
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

SRC. : SEQ. : : DATE : TEST : RES. : : NUMBER : TEST : : : NUM. :
CODE : NUM. : MANUFACTURER : FULL PART NUM. : CODE : DATE : (OHMS) : CAP. : PULSES : TYPE : RESULT : VOLTAGE : DEV. : PIN COMBINATION

1N973B VOLTAGE REGULATOR DIODE

029 : 253 : HAUFMAN : : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 730704 : 1 : N/R

REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.

1N974B VOLTAGE REGULATOR DIODE

029 : 254 : MOTOROLA SEMI : : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 76205 : 1 : N/R

REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.

1N981B VOLTAGE REGULATOR DIODE

029 : 255 : MOTOROLA SEMI : : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 32082 : 1 : N/R

REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.

N/R SCOTTKY BARRIER (HOT CARRIER) DIODE

014 : 9 : N/R : : N/R : N/R : 100 : 100 PF : 1 : SS : FAIL : 250 : N/R : N/R

REMARK: 250 VOLTS IS AN AVERAGE OF AN UNKNOWN NUMBER OF DEVICES. FAILURE CRITERIA: CHANGE IN I REVERSE

015 : 9 : N/R : : N/R : N/R : 1000 : 100 PF : 1 : SS : FAIL : 1800 : N/R : N/R

REMARK: 1800 VOLTS IS AN AVERAGE OF AN UNKNOWN NUMBER OF DEVICES. FAILURE CRITERIA: CHANGE IN I REVERSE.

016 : 9 : N/R : : N/R : N/R : 10K : 100 PF : 1 : SS : FAIL : 3800 : N/R : N/R

REMARK: 3800 VOLTS IS AN AVERAGE OF AN UNKNOWN NUMBER OF DEVICES. FAILURE CRITERIA: CHANGE IN I REVERSE

DEVICE TYPE: TRANSISTORS

BASIC PART NUMBER DESCRIPTION

SRC. : SEQ. : : DATE : TEST : : NUMBER : TEST : : NUM. :
 CODE : NUM. : MANUFACTURER : FULL PART NUM. : CODE : DATE : (OHMS) : CAP. : PULSES : TYPE : RESULT : VOLTAGE : DEV. : PIN COMBINATION

SKA4504 TRANSISTORS

014 : 11 : TEKTRONIX : N/R : N/R : N/R : 100 : 100 PF : 1 : SS : FAIL : 475 : N/R : B C
 REMARK: 475 VOLTS IS AN AVERAGE OF AN UNKNOWN NUMBER OF DEVICES.
 015 : 6 : TEKTRONIX : N/R : N/R : N/R : 1000 : 100 PF : 1 : SS : FAIL : 1900 : N/R : B C
 REMARK: 1900 VOLTS IS AN AVERAGE OF AN UNKNOWN NUMBER OF DEVICES.
 016 : 6 : N/R : N/R : N/R : N/R : 10K : 100 PF : 1 : SS : FAIL : 5000 : N/R : B C
 REMARK: 5000 VOLTS IS AN AVERAGE OF AN UNKNOWN NUMBER OF DEVICES.

SKA6516 TRANSISTORS

JUNCTION CONTACT

014 : 10 : TEKTRONIX : N/R : N/R : N/R : 100 : 100 PF : 1 : SS : FAIL : 450 : N/R : B C
 REMARK: 450 VOLTS IS AN AVERAGE OF AN UNKNOWN NUMBER OF DEVICES.
 015 : 5 : TEKTRONIX : N/R : N/R : N/R : 1000 : 100 PF : 1 : SS : FAIL : 1625 : N/R : B C
 REMARK: 1625 VOLTS IS AN AVERAGE OF AN UNKNOWN NUMBER OF DEVICES.
 016 : 5 : N/R : N/R : N/R : N/R : 10K : 100 PF : 1 : SS : FAIL : 7800 : N/R : B C
 REMARK: 7800 VOLTS IS AN AVERAGE OF AN UNKNOWN NUMBER OF DEVICES.

SK4692-1 PNP LOW POWER TRANSISTOR

029 : 1 : MOTOROLA SEMI : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1871 : 1 : B(+) E(-)
 REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.

2N1016B NPN HIGH POWER TRANSISTOR

029 : 2 : WESTINGHOUSE : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 37445 : 1 : E(+) B(-)
 REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.

2N1039 PNP HIGH POWER TRANSISTOR, GERMANIUM

029 : 3 : TEXAS INSTRUMENTS : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 34323 : 1 : B(+) E(-)
 REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.

2N1099 PNP HIGH POWER TRANSISTOR, GERMANIUM

029 : 4 : DELCO ELECTRONICS : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 27917 : 1 : B(+) E(-)
 REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.

2N1115 PNP LOW POWER TRANSISTOR, GERMANIUM

029 : 5 : ELEC. TRANSISTOR CORP. : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 17911 : 1 : B(+) E(-)
 REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.

2N1116A NPN LOW POWER TRANSISTOR

029 : 6 : TRANSITION ELEC. CORP. : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 92846 : 1 : E(+) B(-)
 REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.

DEVICE TYPE: TRANSISTORS
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

SRC. : SEQ. :	DATE : TEST : RES. :	NUMBER : TEST :	NUM. :
CODE : NUM. :	FULL PART NUM. : CAP. : PULSES : TYPE : RESULT : VOLTAGE : DEV. :	PIN COMBINATION	

2N1118 PNP LOW POWER TRANSISTOR

029 : 7 : SPRAGUE ELECTRIC : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 13005 : 1 : B(+) E(-)

REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.

2N1132 PNP LOW POWER TRANSISTOR

029 : 8 : FAIRCHILD SEMI : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 14066 : 1 : B(+) E(-)

REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.

2N1132A PNP LOW POWER TRANSISTOR

029 : 9 : FAIRCHILD SEMI : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 9185 : 1 : B(+) E(-)

REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.

029 : 10 : MOTOROLA SEMI : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 13423 : 1 : B(+) E(-)

REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.

029 : 11 : RAYTHEON : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 17906 : 1 : B(+) E(-)

REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.

2N1204 PNP LOW POWER TRANSISTOR, GERMANIUM

029 : 12 : MOTOROLA SEMI : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 2787 : 1 : B(+) E(-)

REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.

2N1308 NPN LOW POWER TRANSISTOR, GERMANIUM

029 : 13 : GENERAL INSTRUMENTS : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 8272 : 1 : E(+) B(-)

REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.

029 : 14 : TEXAS INSTRUMENTS : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 1892 : 1 : E(+) B(-)

REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.

2N1469 PNP LOW POWER TRANSISTOR

029 : 15 : SOLITRON DEVICES : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 23857 : 1 : B(+) E(-)

REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.

2N1485 NPN HIGH POWER TRANSISTOR

029 : 16 : SENSITRON SEMI. : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 41077 : 1 : E(+) B(-)

REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.

2N1486 NPN HIGH POWER TRANSISTOR

029 : 17 : SENSITRON SEMI. : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 36839 : 1 : E(+) B(-)

REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.

2N1613 NPN LOW POWER TRANSISTOR

029 : 20 : MOTOROLA SEMI : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 29490 : 1 : E(+) B(-)

REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.

DEVICE TYPE: TRANSISTORS
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

SEC. : SEQ. : : DATE : TEST : RES. : : NUMBER : TEST : : : NUM. :
CODE : NUM. : MANUFACTURER : FULL PART NUM. : CODE : DATE : (OHMS) : CAP. : PULSES : TYPE : RESULT : VOLTAGE : DEV. : PIN COMBINATION

SI BIDIRECTIONAL PNP

MISCELLANEOUS TRANSISTORS

029 : 21 : TELETYPE CRYSTALONICS : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 10756 : 1 : B(+) E(-)
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.

PNP LOW POWER TRANSISTOR

029 : 22 : FAIRCHILD SEMI : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 10411 : 1 : E(+) B(-)
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.
029 : 23 : MOTOROLA SEMI : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 10411 : 1 : E(+) B(-)
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.
029 : 24 : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 10337 : 1 : E(+) B(-)
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.

PNP HIGH POWER TRANSISTOR, GERMANIUM

029 : 25 : MOTOROLA SEMI : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 31013 : 1 : B(+) E(-)
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.

PNP LOW POWER TRANSISTOR

029 : 27 : FAIRCHILD SEMI : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 18535 : 1 : E(+) B(-)
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.

PNP LOW POWER TRANSISTOR, GERMANIUM

029 : 28 : ELEC. TRANSISTOR CORP. : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 22735 : 1 : B(+) E(-)
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.

PNP LOW POWER TRANSISTOR

232 : 97 : N/R : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 12225 : 1 : N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)

PNP HIGH POWER TRANSISTOR

029 : 29 : NATIONAL SEMI : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 19499 : 1 : E(+) B(-)
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.

PNP HIGH POWER TRANSISTOR

232 : 98 : N/R : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 50408 : 1 : N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)

PNP LOW POWER TRANSISTOR

029 : 30 : ELEC. TRANSISTOR CORP. : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 21886 : 1 : E(+) B(-)
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.

PIN COMBINATION

N/R

: E(+) B(-)

:- E(+) B(-)

N/R

N/R

M/R

X/N

$\cdot F(+)\ B(-)$

: E(+) B(-)

: E(+) B(-)

**: E(+)
B(-)**

1

10/10

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100

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$$: E(+)\bar{E}(-)$$

● 2019 年 10 月 1 日起实施的《中华人民共和国电子商务法》

DEVICE TYPE: TRANSISTORS
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION	SRC. : SEQ.:	MANUFACTURER	PULL PART NUM.	DATE	TEST	RES.	CAP.	PULSES	TYPE	RESULT	VOLTAGE	DEV.	NUM.	PIN COMBINATION
2N2432A	NPN LOW POWER TRANSISTOR														
048	8	N/R		N/R	N/R	100	218 PF	1	SS	FAIL	620	1		N/R	
2N2433	NPN LOW POWER TRANSISTOR														
029	40	FAIRCHILD SEMI		N/R	N/R	1500	100 PF	1	N/R	FAIL	8100	1		E(+) B(-)	
029	41	MOTOROLA SEMI		N/R	N/R	1500	100 PF	1	N/R	FAIL	6968	1		E(+) B(-)	
2N2491	NPN LOW POWER TRANSISTOR														
029	42	FAIRCHILD SEMI		N/R	N/R	1500	100 PF	1	N/R	FAIL	4214	1		E(+) B(-)	
2N2483	NPN LOW POWER TRANSISTOR														
029	43	FAIRCHILD SEMI		N/R	N/R	1500	100 PF	1	N/R	FAIL	5499	1		E(+) B(-)	
2N2484	NPN LOW POWER TRANSISTOR														
029	44	FAIRCHILD SEMI		N/R	N/R	1500	100 PF	1	N/R	FAIL	7047	1		E(+) B(-)	
030	650	N/R		N/R	N/R	1500	100 PF	1	N/R	FAIL	5000	1		N/R	
2N2540	NPN LOW POWER TRANSISTOR														
048	9	N/R		N/R	N/R	100	218 PF	1	SS	FAIL	1450	1		N/R	
2N2608	JFET P-CHANNEL														
048	16	N/R		N/R	N/R	100	218 PF	1	SS	FAIL	320	1		N/R	
2N2609	JFET P-CHANNEL														
030	651	N/R		N/R	N/R	1500	100 PF	1	N/R	FAIL	3000	1		N/R	
2N2708	NPN LOW POWER TRANSISTOR														
029	45	ELSEC. TRANSISTOR CORP.		N/R	N/R	1500	100 PF	1	N/R	FAIL	2216	1		E(+) B(-)	

DEVICE TYPE: TRANSISTORS
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION	SER. : SEQ. : CODE : NUM. :	MANUFACTURER	FULL PART NUM. :	DATE : TEST : : CODE : (ORHS) :	CAP. : PULSES : : : : :	NUMBER : TEST : : : : :	NUM. : : : : :	VOLTAGE : DEV. : : : : :	PIN COMBINATION
PNP LOW POWER TRANSISTOR										
2N2801		029 : 46 : FAIRCHILD SEMI		N/R	N/R : N/R : 1500 : 100 PF :	1	N/R : FAIL :	9644 :	1	B(+) E(-)
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.								
		029 : 47 : MOTOROLA SEMI		N/R	N/R : N/R : 1500 : 100 PF :	1	N/R : FAIL :	13744 :	1	B(+) E(-)
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.								
NPN RF TRANSISTOR										
2N2857		029 : 48 : MOTOROLA SEMI		N/R	N/R : N/R : 1500 : 100 PF :	1	N/R : FAIL :	2741 :	1	E(+) B(-)
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.								
		026 : 17 : MOTOROLA SEMI		N/R	N/R : JAN 78 : 100 : 200 PF :	1	SS : FAIL :	290 :	4	E(+) B(-)
		REMARK: VOLTAGE IS AN AVERAGE OF 4 DEVICES			FAILURE CRITERIA: IEBO AT VEB = 2.5V +1000% CHANGE					
		028 : 2 : N/R		N/R	N/R : N/R : 1500 : 117 PF :	30	SS : FAIL :	1500 :	5	N/R
		FAILURE CRITERIA: VEB0-IV, TYPICALLY 5 VOLTS								
PNP LOW POWER TRANSISTOR										
2N2894		029 : 49 : RAYTHEON		N/R	N/R : N/R : 1500 : 100 PF :	1	N/R : FAIL :	5405 :	1	B(+) E(-)
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.								
NPN LOW POWER TRANSISTOR										
2N2904A		232 : 102 :	N/R	N/R	N/R : N/R : 1500 : 100 PF :	1	N/R : FAIL :	7189 :	1	N/R
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)								
PNP LOW POWER TRANSISTOR										
2N2905		030 : 702 :	N/R	N/R	N/R : N/R : 1500 : 100 PF :	1	N/R : FAIL :	11000 :	1	N/R
		FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%								
		232 : 103 :	N/R	N/R	N/R : N/R : 1500 : 100 PF :	1	N/R : FAIL :	7189 :	1	N/R
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)								
PNP LOW POWER TRANSISTOR										
2N2905A		030 : 652 :	N/R	N/R	N/R : N/R : 1500 : 100 PF :	1	N/R : FAIL :	11300 :	1	N/R
		FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%								
		232 : 104 :	N/R	N/R	N/R : N/R : 1500 : 100 PF :	1	N/R : FAIL :	7189 :	1	N/R
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)								
PNP LOW POWER TRANSISTOR										
2N2906		029 : 50 : MOTOROLA SEMI		N/R	N/R : N/R : 1500 : 100 PF :	1	N/R : FAIL :	6018 :	1	B(+) E(-)
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL								
PNP LOW POWER TRANSISTOR										
2N2907		029 : 51 : MOTOROLA SEMI		N/R	N/R : N/R : 1500 : 100 PF :	1	N/R : FAIL :	10914 :	1	B(+) E(-)
		REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL								
		048 : 10 :	N/R	N/R	N/R : N/R : 100 : 218 PF :	1	SS : FAIL :	1200 :	1	N/R
		FAILURE CRITERIA: 50% DROP IN V(BR) CBO AT IB=50A								

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(CONTINUED)

232

DEVICE TYPE: TRANSISTORS
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION	SER. : SEQ. : CODE : NUM. :	MANUFACTURER	FULL PART NUM. :	DATE : TEST : CODE : DATE :	RES. : (OHMS) :	CAP. : (PULSES) :	TYPE : RESULT :	NUM. : VOLTAGE :	DEV. : PIN COMBINATION
2N3112	JFET P-CHANNEL									
048 : 17 :	N/R			N/R			218 PF :	1 : SS : FAIL :	530 :	1 : N/R
	FAILURE CRITERIA: 50% DROP IN V(BR)GSS AT IC=5UA									
2N3114	NPN LOW POWER TRANSISTOR									
029 : 59 :	FAIRCHILD SEMI			N/R			100 PF :	1 : N/R : FAIL :	10564 :	1 : E(+) B(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.									
2N3117	NPN LOW POWER TRANSISTOR									
048 : 11 :	N/R			N/R			218 PF :	1 : SS : FAIL :	1000 :	1 : N/R
	FAILURE CRITERIA: 50% DROP IN V(BR) CBO AT IB=5UA									
2N3250A	PNP LOW POWER TRANSISTOR									
232 : 108 :	N/R			N/R			100 PF :	1 : N/R : FAIL :	6205 :	1 : N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)									
2N3251	PNP LOW POWER TRANSISTOR									
029 : 60 :	RAYTHEON			N/R			100 PF :	1 : N/R : FAIL :	6064 :	1 : B(+) E(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.									
2N3251A	PNP LOW POWER TRANSISTOR									
232 : 109 :	N/R			N/R			100 PF :	1 : N/R : FAIL :	3655 :	1 : N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)									
2N3253	NPN HIGH POWER TRANSISTOR									
232 : 110 :	N/R			N/R			100 PF :	1 : N/R : FAIL :	12363 :	1 : N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)									
2N329	PNP LOW POWER TRANSISTOR									
029 : 61 :	RAYTHEON			N/R			100 PF :	1 : N/R : FAIL :	14000 :	1 : B(+) E(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.									
2N335	NPN LOW POWER TRANSISTOR									
029 : 62 :	TEXAS INSTRUMENTS			N/R			100 PF :	1 : N/R : FAIL :	22140 :	1 : E(+) B(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.									
029 : 63 :	TEXAS INSTRUMENTS			N/R			100 PF :	1 : N/R : FAIL :	21681 :	1 : E(+) B(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.									
2N336	NPN LOW POWER TRANSISTOR									
029 : 64 :	TEXAS INSTRUMENTS			N/R			100 PF :	1 : N/R : FAIL :	22079 :	1 : E(+) B(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.									

DEVICE TYPE: TRANSISTORS
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

SRC. : SEQ. : : DATE : TEST : RES. : : NUMBER : TEST : : : NUM. :
CODE : RUN. : MANUFACTURER : FULL PART NUM. : CODE : DATE : (OHMS) : CAP. : PULSES : TYPE : RESULT : VOLTAGE : DEV. : PIN COMBINATION

2N336A NPN LOW POWER TRANSISTOR

029 : 65 : ELEC. TRANSISTOR CORP. : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 17201 : 1 : E(+) B(-)
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.

2N3375 NPN HIGH POWER TRANSISTOR

232 : 111 : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 25313 : 1 : N/R

REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)

2N338 NPN LOW POWER TRANSISTOR

029 : 66 : TRANSITION ELEC. CORP. : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 6488 : 1 : E(+) B(-)
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.

2N343 NPN LOW POWER TRANSISTOR

029 : 67 : TEXAS INSTRUMENTS : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 6427 : 1 : E(+) B(-)
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.

2N3439 NPN LOW POWER TRANSISTOR

030 : 634 : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 10000 : 1 : N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%
232 : 112 : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 12308 : 1 : N/R

REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)

2N3440 NPN LOW POWER TRANSISTOR

029 : 68 : RCA : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 30959 : 1 : E(+) B(-)
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.

232 : 113 : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 12308 : 1 : N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)

2N3468 PNP LOW POWER TRANSISTOR

029 : 69 : RAYTHEON : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 19178 : 1 : B(+) E(-)
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.

2N3486A PNP LOW POWER TRANSISTOR

232 : 114 : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 7189 : 1 : N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)

2N3498 NPN HIGH POWER TRANSISTOR

232 : 115 : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 9752 : 1 : N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)

DEVICE TYPE: TRANSISTORS
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION	SRC. : SEQ. : CODE : NUM. :	MANUFACTURER	FULL PART NUM. :	DATE : TEST : RES. :	NUMBER : TEST : PULSES : TYPE : RESULT : VOLTAGE : DEV. :	PIN COMBINATION
2N3500	NPN HIGH POWER TRANSISTOR						
232 : 116 :	N/R			N/R : N/R : 1500 : 100 PF :	1 : N/R : FAIL : 9752 : 1 :	N/R	
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)						
2N3501	NPN HIGH POWER TRANSISTOR						
232 : 117 :	N/R			N/R : N/R : 1500 : 100 PF :	1 : N/R : FAIL : 9752 : 1 :	N/R	
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)						
2N3503	PNP LOW POWER TRANSISTOR						
029 : 70 :	N/R			N/R : N/R : 1500 : 100 PF :	1 : N/R : FAIL : 16547 : 1 : B(+) E(-)		
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.						
2N3507	NPN HIGH POWER TRANSISTOR						
232 : 118 :	N/R			N/R : N/R : 1500 : 100 PF :	1 : N/R : FAIL : 18753 : 1 :	N/R	
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)						
2N3553	NPN HIGH POWER TRANSISTOR						
232 : 119 :	N/R			N/R : N/R : 1500 : 100 PF :	1 : N/R : FAIL : 16916 : 1 :	N/R	
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)						
2N3570	NPN LOW POWER TRANSISTOR						
048 : 12 :	N/R			N/R : N/R : 100 : 218 PF :	1 : SS : FAIL : 380 : 1 :	N/R	
	FAILURE CRITERIA: 50% DROP IN V(BR) C80 AT 18-50A						
2N3584	NPN HIGH POWER TRANSISTOR						
232 : 120 :	N/R			N/R : N/R : 1500 : 100 PF :	1 : N/R : FAIL : 34200 : 1 :	N/R	
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)						
2N3585	NPN HIGH POWER TRANSISTOR						
029 : 71 :	MOTOROLA SEMI			N/R : N/R : 1500 : 100 PF :	1 : N/R : FAIL : 53877 : 1 : E(+) B(-)		
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.						
2N3631	MOSFET (IGFET) N-CHANNEL						
028 : 9 :	N/R			N/R : N/R : 1500 : 117 PF :	30 : SS : FAIL : 100 : 5 :	N/R	
	FAILURE CRITERIA: ID=SHORT						
2N3635	PNP LOW POWER TRANSISTOR						
030 : 703 :	N/R			N/R : N/R : 1500 : 100 PF :	1 : N/R : FAIL : 11000 : 1 :	N/R	
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%						
232 : 121 :	N/R			N/R : N/R : 1500 : 100 PF :	1 : N/R : FAIL : 12363 : 1 :	N/R	
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)						

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2N3636
PNP LOW POWER TRANSISTOR

029 :	72 :	MOTOROLA SEMI	:	N/R	:	N/R :	1500 :	100 PF :	1 :	N/R :	FAIL :	29595 :	1 :	B(+)	E(-)
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REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WJNSCH MODEL.

2N3637 PNP HIGH POWER TRANSISTOR

232 : 122 : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 12363 : 1 : N/R

REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)

2N3677
PNP LOW POWER TRANSISTOR

029 :	73 :	N/R	:	N/R	:	1500 :	100 PF :	1 :	N/R :	FAIL :	6158 :	1 :	B(+)	E(-)
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REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.

2N3700
NPN LOW POWER TRANSISTOR

029 : 74 : FAIRCHILD SEMI : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 16661 : 1 : E(+) B(-)

REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.

2N3715 NPN HIGH POWER TRANSISTOR

232 : 123 : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 75917 : 1 : N/R

REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)

2N3716 NPN HIGH POWER TRANSISTOR

232 : 124 : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 75917 : 1 :
REMARK: FAILURE VOLTAGE OBTAINED FROM PHP DATA AND WUNSCH MODEL. (SUPERSAP 2)

2N3735 NPN HIGH POWER TRANSISTOR

	N/R	N/R	N/R	N/R	N/R	N/R	N/R	N/R	N/R												
232	125	:	N/R	:	N/R	:	1500	:	100 PF	:	1	:	N/R	:	FAIL	:	9999	:	1	:	N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)																					

2N3737 NPN LOW POWER TRANSISTOR

232	126 :	N/R	:	N/R	:	N/R	:	1500 :	100 PF :	1 :	N/R :	FAIL :	8451 :	1 :	N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)															

2N3739 NPN HIGH POWER TRANSISTOR

232 : 127 : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 27363 : 1 : N/R
 DEGRADE - FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WINNICH MODEL. (SIPPSAP 2)

2N3761 PNP HIGH POWER TRANSISTOR

	67	N/R	:	N/R	:	1500	:	N/R	:	100	:	PF	:	1	:	N/R	:	FAIL	:	28191	:	1	:	N/R
232	:	67	:	N/R	:	N/R	:	N/R	:	1500	:	N/R	:	1	:	N/R	:	FAIL	:	28191	:	1	:	N/R
REMARK: VOLTAGE OBTAINED FROM EMP DATA AND WINSCH MODEL. (SUPERSAP 2)																								

DEVICE TYPE: TRANSISTORS
(CONTINUED)

BASIC PART NUMBER	DESCRIPTION	SEC. : SEQ. : CODE : NUM. :	MANUFACTURER	FULL PART NUM. :	DATE : TEST : RES. :	NUMBER : TEST : PULSES : TYPE : RESULT : VOLTAGE : DEV. :	PIN COMBINATION
2N375	PNP HIGH POWER TRANSISTOR, GERMANIUM						
029 : 75 :	MOTOROLA SEMI			N/R : N/R : 1500 :	100 PF :	1 : N/R : FAIL :	28201 : 1 : 8(+) C(-)
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.						
2N3763	PNP HIGH POWER TRANSISTOR						
232 : 68 :	N/R			N/R : N/R : 1500 :	100 PF :	1 : N/R : FAIL :	9999 : 1 : N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)						
2N3765	PNP LOW POWER TRANSISTOR						
232 : 69 :	N/R			N/R : N/R : 1500 :	100 PF :	1 : N/R : FAIL :	9999 : 1 : N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)						
2N3772	PNP HIGH POWER TRANSISTOR						
232 : 70 :	N/R			N/R : N/R : 1500 :	100 PF :	1 : N/R : FAIL :	76645 : 1 : N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)						
2N3791	PNP HIGH POWER TRANSISTOR						
232 : 71 :	N/R			N/R : N/R : 1500 :	100 PF :	1 : N/R : FAIL :	76500 : 1 : N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)						
2N3799	PNP LOW POWER TRANSISTOR						
030 : 704 :	N/R			N/R : N/R : 1500 :	100 PF :	1 : N/R : FAIL :	7000 : 1 : N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%						
2N3810	PNP LOW POWER TRANSISTOR						
232 : 72 :	N/R			N/R : N/R : 1500 :	100 PF :	1 : N/R : FAIL :	5048 : 1 : N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)						
2N3811	PNP LOW POWER TRANSISTOR						
030 : 705 :	N/R			N/R : N/R : 1500 :	100 PF :	1 : N/R : FAIL :	6000 : 1 : N/R
	FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%						
2N3821	JFET N-CHANNEL						
232 : 73 :	N/R			N/R : N/R : 1500 :	100 PF :	1 : N/R : FAIL :	4879 : 1 : N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)						
2N3822	JFET N-CHANNEL						
232 : 74 :	N/R			N/R : N/R : 1500 :	100 PF :	1 : N/R : FAIL :	7879 : 1 : N/R
	REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)						

DEVICE TYPE: TRANSISTORS
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

SEC. : SEQ. : CODE : NUM. :	MANUFACTURER :	FULL PART NUM. :	DATE : TEST : RES. : : CODE : DATE : (OHMS) :	CAP. : : :	NUMBER : TEST : : PULSES : TYPE : RESULT : VOLTAGE : DEV. :	PIN COMBINATION
2N3823	JFET N-CHANNEL					
232 : 75 :	N/R	N/R	N/R : N/R : 1500 : 100 PF :	1 :	N/R : FAIL : 4045 :	1 : N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)						
026 : 18 :	TEXAS INSTRUMENTS	N/R	N/R : JAN 78 : 100 : 200 PF :	1 :	SS : FAIL : 208 :	4 : SOURCE(+) GATE(-)
REMARK: VOLTAGE IS AN AVERAGE OF 4 DEVICES FAILURE CRITERIA: IGSS AT VGS = -20V +100% CHANGE						
2N3866	NPN HIGH POWER TRANSISTOR					
232 : 76 :	N/R	N/R	N/R : N/R : 1500 : 100 PF :	1 :	N/R : FAIL : 11659 :	1 : N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)						
026 : 14 :	RCA	N/R	N/R : JAN 78 : 100 : 200 PF :	1 :	SS : FAIL : 3525 :	4 : E(+) B(-)
REMARK: VOLTAGE IS AN AVERAGE OF 4 DEVICES FAILURE CRITERIA: IEBO AT VEB = 3.5V 100% CHANGE						
2N3866A	NPN RF TRANSISTOR					
232 : 77 :	N/R	N/R	N/R : N/R : 1500 : 100 PF :	1 :	N/R : FAIL : 11659 :	1 : N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)						
2N3868	PNP HIGH POWER TRANSISTOR					
232 : 78 :	N/R	N/R	N/R : N/R : 1500 : 100 PF :	1 :	N/R : FAIL : 22533 :	1 : N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)						
2N389	NPN HIGH POWER TRANSISTOR					
029 : 76 :	TEXAS INSTRUMENTS	N/R	N/R : N/R : 1500 : 100 PF :	1 :	N/R : FAIL : 43161 :	1 : E(+) B(-)
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.						
2N3902	NPN HIGH POWER TRANSISTOR					
030 : 655 :	N/R	N/R	N/R : N/R : 1500 : 100 PF :	1 :	N/R : PASS : 15300 :	1 : N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%						
2N3960	NPN LOW POWER TRANSISTOR					
232 : 79 :	N/R	N/R	N/R : N/R : 1500 : 100 PF :	1 :	N/R : FAIL : 3921 :	1 : N/R
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)						
2N3964	PNP LOW POWER TRANSISTOR					
030 : 656 :	N/R	N/R	N/R : N/R : 1500 : 100 PF :	1 :	N/R : FAIL : 5500 :	1 : N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%						
2N3971	JFET N-CHANNEL					
048 : 18 :	N/R	N/R	N/R : N/R : 100 : 218 PF :	1 :	SS : FAIL : 160 :	1 : N/R
FAILURE CRITERIA: 50% DROP IN V(BR)GSS AT IC=50A						

DEVICE TYPE: TRANSISTORS
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

SIC. : SEQ.: : DATE : TEST : RES. : : NUMBER : TEST : : NUM. :
CODE : NUM.: : MANUFACTURER : : FULL PART NUM. : CODE : DATE : (OHMS): CAP. : PULSES : TYPE : RESULT: VOLTAGE: DEV. : PIN COMBINATION

2N3997 PNP HIGH POWER TRANSISTOR

232 : 80 : : N/R : : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 4538 : 1 : : N/R

REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)

2N4033 PNP LOW POWER TRANSISTOR

029 : 77 : : N/R : : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 16190 : 1 : B(+) E(-)

REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.

2N4036 PNP HIGH POWER TRANSISTOR

030 : 706 : : N/R : : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 5000 : 1 : : N/R

FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

2N4118A JFET N-CHANNEL

048 : 19 : : N/R : : N/R : N/R : 100 : 218 PF : 1 : SS : FAIL : 140 : 1 : : N/R

FAILURE CRITERIA: 50% DROP IN V(BE)GSS AT IG-SUA

2N4134 NPN LOW POWER TRANSISTOR

030 : 657 : : N/R : : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 2000 : 1 : : N/R

FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

2N4150 NPN HIGH POWER TRANSISTOR

232 : 81 : : N/R : : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 2951 : 1 : : N/R

REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)

2N4251 NPN LOW POWER TRANSISTOR

048 : 13 : : N/R : : N/R : N/R : 100 : 218 PF : 1 : SS : FAIL : 460 : 1 : : N/R

FAILURE CRITERIA: 50% DROP IN V(BE) CBO AT IB-SUA

2N4303 JFET N-CHANNEL

014 : 7 : : N/R : : N/R : N/R : 100 : 100 PF : 1 : SS : FAIL : 850 : N/R : : SOURCE DRAIN

REMARK: 850 VOLTS IS AN AVERAGE OF AN UNKNOWN NUMBER OF DEVICES.

015 : 7 : : N/R : : N/R : N/R : 1000 : 100 PF : 1 : SS : FAIL : 10000 : N/R : : SOURCE DRAIN

REMARK: 10000 VOLTS IS AN AVERAGE OF AN UNKNOWN NUMBER OF DEVICES.

016 : 7 : : N/R : : N/R : N/R : 10K : 100 PF : 1 : SS : FAIL : 16300 : N/R : : SOURCE DRAIN

REMARK: 16300 VOLTS IS AN AVERAGE OF AN UNKNOWN NUMBER OF DEVICES.

2N4393 JFET N-CHANNEL

029 : 78 : : N/R : : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 5691 : 1 : : DRAIN SOURCE

REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.

DEVICE TYPE: TRANSISTORS
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

SER. : SEQ. : : DATE : TEST : RES. : : NUMBER : TEST : : NUM. :
CODE : NUM. : MANUFACTURER : FULL PART NUM. : CODE : DATE : (OHMS) : CAP. : PULSES : TYPE : RESULT : VOLTAGE : DEV. : PIN COMBINATION

2M4399 PNP HIGH POWER TRANSISTOR

232 : 82 : N/R : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 88158 : 1 : N/R

REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)

2M4405 PNP HIGH POWER TRANSISTOR

232 : 83 : N/R : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 12362 : 1 : N/R

REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)

2M4416 JFET N-CHANNEL

249 : 1 : INTERSIL : N/R : 8027 : N/R : 1500 : 100 PF : 200 : GN : FAIL : 100 : 1 : G(+) S(-)

FAILURE CRITERIA: IGSS OUT OF SPEC.

253 : 1 : INTERSIL : N/R : 8033 : N/R : 1500 : 100 PF : 200 : GN : PASS : 130 : 1 : G(+) S(-)

FAILURE CRITERIA: IGSS AND/OR V(BR)GSS OUT OF SPEC.

254 : 1 : INTERSIL : N/R : 8033 : N/R : 1500 : 100 PF : 200 : GN : FAIL : 140 : 1 : G(+) S(-)

FAILURE CRITERIA: V(BR)GSS OUT OF SPEC.

256 : 5 : INTERSIL : N/R : 8027 : N/R : 1500 : 100 PF : 18 : GN : FAIL : 150 : 1 : G(+) S(-)

FAILURE CRITERIA: IGSS AND V(BR)GSS OUT OF SPEC.

259 : 1 : INTERSIL : N/R : 8006 : N/R : 1500 : 100 PF : 20 : GN : FAIL : 165 : 1 : G(+) S(-)

FAILURE CRITERIA: IGSS AND V(BR)GSS OUT OF SPEC.

262 : 1 : INTERSIL : N/R : 8027 : N/R : 1500 : 100 PF : 10 : GN : FAIL : 175 : 1 : G(+) S(-)

FAILURE CRITERIA: IGSS AND V(BR)GSS OUT OF SPEC.

263 : 2 : INTERSIL : N/R : 8027 : N/R : 1500 : 100 PF : 4 : GN : FAIL : 180 : 1 : G(+) S(-)

FAILURE CRITERIA: IGSS AND V(BR)GSS OUT OF SPEC.

263 : 3 : INTERSIL : N/R : 8033 : N/R : 1500 : 100 PF : 500 : GN : PASS : 180 : 2 : G(+) S(-)

FAILURE CRITERIA: IGSS AND V(BR)GSS OUT OF SPEC.

263 : 4 : INTERSIL : N/R : 8027 : N/R : 1500 : 100 PF : 500 : GN : PASS : 180 : 1 : G(+) S(-)

FAILURE CRITERIA: IGSS AND/OR V(BR)GSS OUT OF SPEC.

263 : 5 : INTERSIL : N/R : 8033 : N/R : 1500 : 100 PF : 1 : GN : FAIL : 180 : 1 : G(+) S(-)

FAILURE CRITERIA: IGSS AND/OR V(BR)GSS OUT OF SPEC.

263 : 6 : TEXAS INSTRUMENTS : N/R : 8006 : N/R : 1500 : 100 PF : 500 : GN : FAIL : 180 : 2 : G(+) S(-)

FAILURE CRITERIA: V(BR)GSS OUT OF SPEC.

263 : 7 : TEXAS INSTRUMENTS : N/R : 8006 : N/R : 1500 : 100 PF : 500 : GN : PASS : 180 : 1 : G(+) S(-)

FAILURE CRITERIA: IGSS AND/OR V(BR)GSS OUT OF SPEC.

263 : 8 : TEXAS INSTRUMENTS : N/R : 8006 : N/R : 1500 : 100 PF : 15 : GN : FAIL : 180 : 1 : G(+) S(-)

FAILURE CRITERIA: IGSS AND V(BR)GSS OUT OF SPEC.

263 : 9 : TEXAS INSTRUMENTS : N/R : 8006 : N/R : 1500 : 100 PF : 125 : GN : FAIL : 180 : 1 : G(+) S(-)

FAILURE CRITERIA: IGSS AND V(BR)GSS OUT OF SPEC.

264 : 1 : INTERSIL : N/R : 8027 : N/R : 1500 : 100 PF : 45 : GN : FAIL : 185 : 1 : G(+) S(-)

FAILURE CRITERIA: IGSS AND V(BR)GSS OUT OF SPEC.

264 : 2 : INTERSIL : N/R : 8027 : N/R : 1500 : 100 PF : 200 : GN : PASS : 185 : 1 : G(+) S(-)

FAILURE CRITERIA: IGSS AND/OR V(BR)GSS OUT OF SPEC.

264 : 3 : TEXAS INSTRUMENTS : N/R : 8006 : N/R : 1500 : 100 PF : 200 : GN : PASS : 185 : 1 : G(+) S(-)

FAILURE CRITERIA: IGSS AND/OR V(BR)GSS OUT OF SPEC.

264 : 4 : INTERSIL : N/R : 8033 : N/R : 1500 : 100 PF : 200 : GN : FAIL : 185 : 1 : G(+) S(-)

FAILURE CRITERIA: V(BR)GSS OUT OF SPEC.

265 : 2 : INTERSIL : N/R : 8027 : N/R : 1500 : 100 PF : 6 : GN : FAIL : 190 : 1 : G(+) S(-)

FAILURE CRITERIA: IGSS AND V(BR)GSS OUT OF SPEC.

DEVICE TYPE: TRANSISTORS
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

SRC. : SEQ. : : DATE : TEST : RES. : : NUMBER : TEST : : NUM. :
CODE : NUM. : MANUFACTURER : FULL PART NUM. : CODE : DATE : (OHMS) : CAP. : PULSES : TYPE : RESULT : VOLTAGE : DEV. : PIN COMBINATION

2M4A16 (CONTINUED) JFET N-CHANNEL

270	:	6	:	INTERMIL	:	N/R	:	8033	:	N/R	:	1500	:	100 PF	:	200	:	GN	:	PASS	:	210	:	1	:	G(+)	:	S(-)
FAILURE CRITERIA: IGSS AND/OR V(BR)GSS OUT OF SPEC.																												
270	:	7	:	INTERMIL	:	N/R	:	8033	:	N/R	:	1500	:	100 PF	:	25	:	GN	:	FAIL	:	210	:	1	:	G(+)	:	S(-)
FAILURE CRITERIA: IGSS OUT OF SPEC																												
270	:	8	:	TEXAS INSTRUMENTS	:	N/R	:	8006	:	N/R	:	1500	:	100 PF	:	1	:	GN	:	FAIL	:	210	:	1	:	G(+)	:	S(-)
FAILURE CRITERIA: IGSS AND V(BR)GSS OUT OF SPEC.																												
270	:	9	:	TEXAS INSTRUMENTS	:	N/R	:	8006	:	N/R	:	1500	:	100 PF	:	3	:	GN	:	FAIL	:	210	:	1	:	G(+)	:	S(-)
FAILURE CRITERIA: IGSS AND V(BR)GSS OUT OF SPEC.																												
270	:	10	:	TEXAS INSTRUMENTS	:	N/R	:	8006	:	N/R	:	1500	:	100 PF	:	90	:	GN	:	FAIL	:	210	:	1	:	G(+)	:	S(-)
FAILURE CRITERIA: IGSS OUT OF SPEC.																												
270	:	11	:	TEXAS INSTRUMENTS	:	N/R	:	8006	:	N/R	:	1500	:	100 PF	:	15	:	GN	:	FAIL	:	210	:	1	:	G(+)	:	S(-)
FAILURE CRITERIA: IGSS AND V(BR)GSS OUT OF SPEC.																												
270	:	12	:	TEXAS INSTRUMENTS	:	N/R	:	8006	:	N/R	:	1500	:	100 PF	:	9	:	GN	:	FAIL	:	210	:	1	:	G(+)	:	S(-)
FAILURE CRITERIA: IGSS AND V(BR)GSS OUT OF SPEC.																												
271	:	1	:	TEXAS INSTRUMENTS	:	N/R	:	8006	:	N/R	:	1500	:	100 PF	:	200	:	GN	:	FAIL	:	215	:	1	:	G(+)	:	S(-)
FAILURE CRITERIA: IGSS AND V(BR)GSS OUT OF SPEC.																												
272	:	1	:	INTERMIL	:	N/R	:	8027	:	N/R	:	1500	:	100 PF	:	1	:	GN	:	FAIL	:	216	:	1	:	G(+)	:	S(-)
FAILURE CRITERIA: IGSS AND V(BR)GSS OUT OF SPEC.																												
272	:	2	:	TEXAS INSTRUMENTS	:	N/R	:	8006	:	N/R	:	1500	:	100 PF	:	1	:	GN	:	PASS	:	216	:	4	:	G(+)	:	S(-)
FAILURE CRITERIA: IGSS AND/OR V(BR)GSS OUT OF SPEC.																												
272	:	3	:	INTERMIL	:	N/R	:	8033	:	N/R	:	1500	:	100 PF	:	1	:	GN	:	PASS	:	216	:	5	:	G(+)	:	S(-)
FAILURE CRITERIA: IGSS AND/OR V(BR)GSS OUT OF SPEC.																												
273	:	1	:	INTERMIL	:	N/R	:	8033	:	N/R	:	1500	:	100 PF	:	200	:	GN	:	PASS	:	220	:	1	:	G(+)	:	S(-)
FAILURE CRITERIA: IGSS AND/OR V(BR)GSS OUT OF SPEC.																												
274	:	1	:	INTERMIL	:	N/R	:	8027	:	N/R	:	1500	:	100 PF	:	200	:	GN	:	PASS	:	225	:	1	:	G(+)	:	S(-)
FAILURE CRITERIA: IGSS AND/OR V(BR)GSS OUT OF SPEC.																												
274	:	2	:	INTERMIL	:	N/R	:	8027	:	N/R	:	1500	:	100 PF	:	1	:	GN	:	FAIL	:	225	:	1	:	G(+)	:	S(-)
FAILURE CRITERIA: IGSS AND V(BR)GSS OUT OF SPEC.																												
274	:	3	:	INTERMIL	:	N/R	:	8033	:	N/R	:	1500	:	100 PF	:	200	:	GN	:	PASS	:	225	:	2	:	G(+)	:	S(-)
FAILURE CRITERIA: IGSS AND/OR V(BR)GSS OUT OF SPEC.																												
274	:	4	:	INTERMIL	:	N/R	:	8033	:	N/R	:	1500	:	100 PF	:	200	:	GN	:	FAIL	:	225	:	1	:	G(+)	:	S(-)
FAILURE CRITERIA: V(BR)GSS OUT OF SPEC.																												
274	:	5	:	TEXAS INSTRUMENTS	:	N/R	:	8006	:	N/R	:	1500	:	100 PF	:	2	:	GN	:	FAIL	:	225	:	1	:	G(+)	:	S(-)
FAILURE CRITERIA: IGSS AND V(BR)GSS OUT OF SPEC.																												
274	:	6	:	TEXAS INSTRUMENTS	:	N/R	:	8006	:	N/R	:	1500	:	100 PF	:	20	:	GN	:	FAIL	:	225	:	1	:	G(+)	:	S(-)
FAILURE CRITERIA: IGSS AND V(BR)GSS OUT OF SPEC.																												
274	:	7	:	TEXAS INSTRUMENTS	:	N/R	:	8006	:	N/R	:	1500	:	100 PF	:	4	:	GN	:	FAIL	:	225	:	1	:	G(+)	:	S(-)
FAILURE CRITERIA: IGSS AND V(BR)GSS OUT OF SPEC.																												
274	:	8	:	TEXAS INSTRUMENTS	:	N/R	:	8006	:	N/R	:	1500	:	100 PF	:	200	:	GN	:	FAIL	:	225	:	1	:	G(+)	:	S(-)
FAILURE CRITERIA: V(BR)GSS OUT OF SPEC.																												
274	:	9	:	TEXAS INSTRUMENTS	:	N/R	:	8006	:	N/R	:	1500	:	100 PF	:	200	:	GN	:	PASS	:	225	:	1	:	G(+)	:	S(-)
FAILURE CRITERIA: IGSS AND/OR V(BR)GSS OUT OF SPEC.																												
275	:	1	:	TEXAS INSTRUMENTS	:	N/R	:	8006	:	N/R	:	1500	:	100 PF	:	2	:	GN	:	FAIL	:	230	:	1	:	G(+)	:	S(-)
FAILURE CRITERIA: IGSS AND V(BR)GSS OUT OF SPEC.																												
275	:	2	:	TEXAS INSTRUMENTS	:	N/R	:	8006	:	N/R	:	1500	:	100 PF	:	200	:	GN	:	FAIL	:	230	:	1	:	G(+)	:	S(-)
FAILURE CRITERIA: IGSS AND V(BR)GSS OUT OF SPEC.																												
275	:	3	:	INTERMIL	:	N/R	:	8033	:	N/R	:	1500	:	100 PF	:	200	:	GN	:	PASS	:	230	:	2	:	G(+)	:	S(-)
FAILURE CRITERIA: IGSS AND/OR V(BR)GSS OUT OF SPEC.																												

[illegible]

2N4416 (CONTINUED) JFET N-CHANNEL

2N4416A JPET N-CHANNEL

2N463 PNP HIGH POWER TRANSISTOR, GERMANIUM

2N4856 JFET N-CHANNEL

2N4858 JFET N-CHANNEL

2N4672 PNP LOW POWER TRANSISTOR

2491 UNIJUNCTION TRANSISTOR

[illegible]

2N4931 PNP HIGH POWER TRANSISTOR

2N4948
UNI JUNCTION TRANSISTOR

2N495A PNP LOW POWER TRANSISTOR

2N4957 PNP LOW POWER TRANSISTOR

2N498 NPN HIGH POWER TRANSISTOR

2N5036 NPN LOW POWER TRANSISTOR

2N5038 NPN HIGH POWER TRANSISTOR

2N5109 NPN HIGH POWER TRANSISTOR

----- JFET P-CHANNEL

PN5154 VPM HIGH POWER TRANSISTOR

0048 : 15 : N/R : N/R : 100 : 218 PF : 1 : SS : PASS : 3000 : 1 : N/R
FAILURE CRITERIA: 50% DROP IN V(BR) CBO AT 1B-50A

[illegible]

2N5157 NPN HIGH POWER TRANSISTOR

2N5241
NPN HIGH POWER TRANSISTOR

2N5245 JFET N-CHANNEL

2N526 PNP LOW POWER TRANSISTOR. GERMANIUM

2N5102 NPN HIGH POWER TRANSISTOR

31734C DND HIGH ROUTEN TRANSYSTOP

[illegible]

FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

2N5524 JFET N-CHANNEL

2N5663
NPN HIGH POWER TRANSISTOR

[illegible]

[illegible][illegible]

2N5682 NPN HIGH POWER TRANSISTOR

030 :	659 :	N/R	:	N/R	:	N/R	:	1500 :	100 PF :	1	:	N/R :	FAIL :	10000 :	1	:	N/R
FAILING CRITERIA: PARAMETER CHANCE OF GREATER THAN 10%																	

2N5745 PNP HIGH POWER TRANSISTOR

232 : 96 : W/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 88158 : 1 : N/R

REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. (SUPERSAP 2)

2N576A NPN LOW POWER TRANSISTOR, GERMANIUM

0209 : 85 : ELEC. TRANSISTOR CORP. : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 3840 : 1 : E(+) B(-)
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.

2N596 PNP LOW POWER TRANSISTOR, GERMANIUM

029 : 86 : GENERAL INSTRUMENTS : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 19658 : 1 : B(+) E(-)
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.

2N6052 PNP DARLINGTON TRANSISTOR

030 : 660 : N/R : N/R : N/R : 100 PP : 1 : N/R : PASS : 15300 : 1 : N/R

2M6059 NPN DARLINGTON TRANSISTOR

030	:	661	:	N/R	:	N/R	:	N/R	:	1500	:	100	:	PF	:	1	:	N/R	:	PASS	:	15300	:	1	:	N/R
FAILING CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%																										

2N618 PNP HIGH POWER TRANSISTOR. GERMANIUM

029 : 87 : MOTOROLA SEMI : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 26070 : 1 : 8(+) 8(-)
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WINSCH MODEL.

2N6212 PNP HIGH POWER TRANSISTOR

060	:	1	:	N/R	:	N/R	:	N/R	:	1500	:	100	PF	:	5	:	CN	:	PASS	:	4000	:	6	:	N/R
-----	---	---	---	-----	---	-----	---	-----	---	------	---	-----	----	---	---	---	----	---	------	---	------	---	---	---	-----

2N656 NPN HIGH POWER TRANSISTOR

029 : 86 : TEXAS INSTRUMENTS : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 12953 : 1 : E(+) B(-)
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.

278657 NEW HIGH POWER TRANSISTOR

029 : 89 : TEXAS INSTRUMENTS : N/R : N/R : 1300 : 100 PF : 1 : N/R : FAIL : 23103 : 1 : E(+) B(-)
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.

(CONTINUED)

DESCRIPTION

```

=====
SRC. : SEQ. : DATE : TEST : RES. : NUMBER : TEST : : NUM. :
MANUFACTURER : FULL PART NUM. : CODE : DATE : (OHMS) : CAP. : PULSES : TYPE : RESULT: VOLTAGE: DEV. : PIN COMBINATION
=====
NPN HIGH POWER TRANSISTOR
=====

```

029 : 90 : GENERAL ELECTRIC : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 26290 : 1 : E(+) B(-)

REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND FUNSCH MODEL.

U29 : 93 : MOTOROLA SEMI : N/R : N/R : N/R : 1500
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.

```

NPN LOW POWER TRANSISTOR

029 : 94 : FAIRCHILD SEMI : N/R : N/R : N/A : 1500 : 100 PF : 1 : N/R : FAIL : 14674 : 1 : E(+) B(-)
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCHE MODEL.

```

NPN LOW POWER TRANSISTOR																
029 :	95 :	TEXAS INSTRUMENTS	:	N/R	:	N/R	:	1500 :	100 PF :	1 :	N/R :	FAIL :	2439 :	1 :	E(+)	B(-)
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.																

NPN LOW POWER TRANSISTOR																								
Q29	: 96	: FAIRCHILD SEMI	:	N/R	:	N/R	:	1500	:	100 PF	:	1	:	N/R	:	FAIL	:	4925	:	1	:	E(+)	:	8(-)
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCHE MODEL.																								

```

NPN LOW POWER TRANSISTOR

029 : 97 : MOTOROLA SEMI : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 14863 : 1 : E(+) B(-)
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.

```

```

NPN LOW POWER TRANSISTOR
.
029 : 98 : MOTOROLA SEMI : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 9191 : 1 : E(+) B(-)
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND JUNSCH MODEL.

```

029 : 99 : MOTOROLA SEMI : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 5118 : 1 : E(+) B(-)
REMARK: FAILURE VOLTAGE OBTAINED FROM EHP DATA AND MUNSCH MODEL.

```

NPN LOW POWER TRANSISTOR

029 : 100 : BAYTHEON : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 3434 : 1 : E(+) E(-)
REMARK: FAILURE VOLTAGE OBTAINED FROM EHP DATA AND EXPONENTIAL MODEL.

```

PNP LOW POWER TRANSISTOR

029 : 101 : TELETYPE CRYSTALONICS : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 11476 : 1 : B(+) E(-)

REMARK: FAILURE VOLTAGE OBTAINED FROM EHP DATA AND RUNSCH MODEL.

BASIC PART NUMBER	DESCRIPTION
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2N869A NPN LOW POWER TRANSISTOR

REMARK: FAILURE VOLTAGE OBTAINED FROM

REMARK: FAILURE VOLTAGE OBTAINED FROM

REMARK: FAILURE VOLTAGE OBTAINED FROM

REMARK: FAILURE VOLTAGE OBTAINED FROM

REMARK: FAILURE VOLTAGE OBTAINED FROM

REMARK: FAILURE VOLTAGE OBTAINED FROM

REMARK: FAILURE VOLTAGE OBTAINED FROM

FAILURE CRITERIA: IGSSR > 25PA AT VG

FAILURE CRITERIA: VGS(OFF) OUT OF SPEC

FAILURE CRITERIA: IGSSR > 25PA AT VCG

332 : 1 : RCA
FAILURE CRITERIA: IGSSR > 25PA AT VGS

DEVICE TYPE: TRANSISTORS
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

SEC. : SEQ. : CODE : NUM. :	MANUFACTURER : (CONTINUED)	MOSFET (IGFET) N-CHANNEL	FULL PART NUM. : :	DATE : :	TEST : :	RES. : CAP. :	PULSES : :	TYPE : :	RESULT : :	VOLTAGE : :	DEV. : :	PIN COMBINATION : :
352	2 : RCA	FAILURE CRITERIA: VGS(OFF) OUT OF SPEC AND IGSSR >25PA AT VGS=8V AND VDS=OV.	N/R	N/R	N/R	1500 : 100 PF :	2	GN	FAIL :	95	1	GATE(+) SOURCE(-)
352	3 : RCA	FAILURE CRITERIA: VGS(OFF) OUT OF SPEC AT VDS=15V AND ID=50UA.	N/R	N/R	N/R	1500 : 100 PF :	15	GN	FAIL :	95	3	GATE(+) SOURCE(-)
352	4 : RCA	FAILURE CRITERIA: IGSSR >25PA AT VGS=8V AND VDS=OV.	N/R	N/R	N/R	1500 : 100 PF :	15	GN	FAIL :	95	1	GATE(+) SOURCE(-)
352	5 : RCA	FAILURE CRITERIA: VGS(OFF) OUT OF SPEC AT VDS=15V AND ID=50UA.	N/R	N/R	N/R	1500 : 100 PF :	20	GN	FAIL :	95	1	GATE(+) SOURCE(-)
352	6 : RCA	FAILURE CRITERIA: VGS(OFF) OUT OF SPEC AT VDS=15V AND ID=50UA.	N/R	N/R	N/R	1500 : 100 PF :	75	GN	FAIL :	95	2	GATE(+) SOURCE(-)
352	7 : RCA	FAILURE CRITERIA: VGS(OFF) OUT OF SPEC AT VDS=15V AND ID=50UA.	N/R	N/R	N/R	1500 : 100 PF :	100	GN	FAIL :	95	1	GATE(+) SOURCE(-)
352	8 : RCA	FAILURE CRITERIA: IGSSR >25PA AT VGS=8V AND VDS=OV.	N/R	N/R	N/R	1500 : 100 PF :	150	GN	FAIL :	95	1	GATE(+) SOURCE(-)
352	9 : RCA	FAILURE CRITERIA: VGS(OFF) OUT OF SPEC AND/OR IGSSR >25PA AT VGS=8V AND VDS=OV.	N/R	N/R	N/R	1500 : 100 PF :	200	GN	PASS :	95	4	GATE(+) SOURCE(-)
353	1 : RCA	FAILURE CRITERIA: IGSSR >25PA AT VGS=8V AND VDS=OV.	N/R	N/R	N/R	1500 : 100 PF :	1	GN	FAIL :	100	7	GATE(+) SOURCE(-)
353	2 : RCA	FAILURE CRITERIA: IGSSR >25PA AT VGS=8V AND VDS=OV.	N/R	N/R	N/R	1500 : 100 PF :	2	GN	FAIL :	100	1	GATE(+) SOURCE(-)
353	3 : RCA	FAILURE CRITERIA: VGS(OFF) OUT OF SPEC AT VDS=15V AND ID=50UA.	N/R	N/R	N/R	1500 : 100 PF :	8	GN	FAIL :	100	1	GATE(+) SOURCE(-)
353	4 : RCA	FAILURE CRITERIA: VGS(OFF) OUT OF SPEC AT VDS=15V AND ID=50UA.	N/R	N/R	N/R	1500 : 100 PF :	10	GN	FAIL :	100	4	GATE(+) SOURCE(-)
353	5 : RCA	FAILURE CRITERIA: VGS(OFF) OUT OF SPEC AT VDS=15V AND ID=50UA.	N/R	N/R	N/R	1500 : 100 PF :	15	GN	FAIL :	100	4	GATE(+) SOURCE(-)
353	6 : RCA	FAILURE CRITERIA: IGSSR >25PA AT VGS=8V AND VDS=OV.	N/R	N/R	N/R	1500 : 100 PF :	30	GN	FAIL :	100	1	GATE(+) SOURCE(-)
353	7 : RCA	FAILURE CRITERIA: VGS(OFF) OUT OF SPEC AT VDS=15V AND ID=50UA.	N/R	N/R	N/R	1500 : 100 PF :	30	GN	FAIL :	100	1	GATE(+) SOURCE(-)
353	8 : RCA	FAILURE CRITERIA: VGS(OFF) OUT OF SPEC AT VDS=15V AND ID=50UA.	N/R	N/R	N/R	1500 : 100 PF :	100	GN	FAIL :	100	1	GATE(+) SOURCE(-)
353	9 : RCA	FAILURE CRITERIA: IGSSR >25PA AT VGS=8V AND VDS=OV.	N/R	N/R	N/R	1500 : 100 PF :	175	GN	FAIL :	100	2	GATE(+) SOURCE(-)
354	1 : RCA	FAILURE CRITERIA: VGS(OFF) OUT OF SPEC AND/OR IGSSR >25PA AT VGS=8V AND VDS=OV.	N/R	N/R	N/R	1500 : 100 PF :	1	GN	FAIL :	103	2	GATE(+) SOURCE(-)
354	2 : RCA	FAILURE CRITERIA: IGSSR >25PA AT VGS=8V AND VDS=OV.	N/R	N/R	N/R	1500 : 100 PF :	1	GN	FAIL :	103	9	GATE(+) SOURCE(-)
354	3 : RCA	FAILURE CRITERIA: VGS(OFF) OUT OF SPEC AND/OR IGSSR >25PA AT VGS=8V AND VDS=OV.	N/R	N/R	N/R	1500 : 100 PF :	1	GN	PASS :	103	9	GATE(+) SOURCE(-)
355	1 : RCA	FAILURE CRITERIA: IGSSR >25PA AT VGS=8V AND VDS=OV.	N/R	N/R	N/R	1500 : 100 PF :	1	GN	FAIL :	105	6	GATE(+) SOURCE(-)
355	2 : RCA	FAILURE CRITERIA: VGS(OFF) OUT OF SPEC AT VDS=15V AND ID=50UA.	N/R	N/R	N/R	1500 : 100 PF :	5	GN	FAIL :	105	1	GATE(+) SOURCE(-)
355	3 : RCA	FAILURE CRITERIA: VGS(OFF) OUT OF SPEC AT VDS=15V AND ID=50UA.	N/R	N/R	N/R	1500 : 100 PF :	6	GN	FAIL :	105	3	GATE(+) SOURCE(-)
355	4 : RCA	FAILURE CRITERIA: IGSSR >25PA AT VGS=8V AND VDS=OV.	N/R	N/R	N/R	1500 : 100 PF :	7	GN	FAIL :	105	1	GATE(+) SOURCE(-)

DEVICE TYPE: TRANSISTORS
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

SRC. : SEQ. :	MANUFACTURER :	FULL PART NUM. :	DATE :	TEST :	RES. :	CAP. :	NUMBER :	TEST :	VOLTAGE :	NUM. :
CODE : NUM. :			CODE :	DATE :	(OHMS) :		PULSES :	TYPE :	DEV. :	PIN COMBINATION :
3M128	(CONTINUED)	MOSFET (IGFET) N-CHANNEL								
355 : 5 : RCA			N/R	N/R	1500	100 PF	8	GN	FAIL	105 : 2 : GATE(+) SOURCE(-)
	FAILURE CRITERIA:	VGS(OFF) OUT OF SPEC AT VDS=15V AND ID=50UA.								
355 : 6 : RCA			N/R	N/R	1500	100 PF	9	GN	FAIL	105 : 1 : GATE(+) SOURCE(-)
	FAILURE CRITERIA:	IGSSR >25PA AT VGS=8V AND VDS=0V.								
355 : 7 : RCA			N/R	N/R	1500	100 PF	20	GN	FAIL	105 : 2 : GATE(+) SOURCE(-)
	FAILURE CRITERIA:	VGS(OFF) OUT OF SPEC AT VDS=15V AND ID=50UA.								
355 : 8 : RCA			N/R	N/R	1500	100 PF	30	GN	FAIL	105 : 1 : GATE(+) SOURCE(-)
	FAILURE CRITERIA:	VGS(OFF) OUT OF SPEC AT VDS=15V AND ID=50UA.								
355 : 9 : RCA			N/R	N/R	1500	100 PF	50	GN	FAIL	105 : 1 : GATE(+) SOURCE(-)
	FAILURE CRITERIA:	VGS(OFF) OUT OF SPEC AT VDS=15V AND ID=50UA.								
355 : 10 : RCA			N/R	N/R	1500	100 PF	75	GN	FAIL	105 : 1 : GATE(+) SOURCE(-)
	FAILURE CRITERIA:	IGSSR >25PA AT VGS=8V AND VDS=0V.								
355 : 11 : RCA			N/R	N/R	1500	100 PF	100	GN	FAIL	105 : 1 : GATE(+) SOURCE(-)
	FAILURE CRITERIA:	VGS(OFF) OUT OF SPEC AND IGSSR >25PA AT VGS=8V AND VDS=0V.								
355 : 12 : RCA			N/R	N/R	1500	100 PF	200	GN	PASS	105 : 1 : GATE(+) SOURCE(-)
	FAILURE CRITERIA:	VGS(OFF) OUT OF SPEC AND/OR IGSSR >25PA AT VGS=8V AND VDS=0V.								
356 : 1 : RCA			N/R	N/R	1500	100 PF	1	GN	FAIL	110 : 11 : GATE(+) SOURCE(-)
	FAILURE CRITERIA:	IGSSR >25PA AT VGS=8V AND VDS=0V.								
356 : 2 : RCA			N/R	N/R	1500	100 PF	1	GN	FAIL	110 : 1 : GATE(+) SOURCE(-)
	FAILURE CRITERIA:	VGS(OFF) OUT OF SPEC AND IGSSR >25PA AT VGS=8V AND VDS=0V.								
356 : 3 : RCA			N/R	N/R	1500	100 PF	2	GN	FAIL	110 : 1 : GATE(+) SOURCE(-)
	FAILURE CRITERIA:	VGS(OFF) OUT OF SPEC AND IGSSR >25PA AT VGS=8V AND VDS=0V.								
356 : 4 : RCA			N/R	N/R	1500	100 PF	4	GN	FAIL	110 : 1 : GATE(+) SOURCE(-)
	FAILURE CRITERIA:	VGS(OFF) OUT OF SPEC AT VDS=15V AND ID=50UA.								
356 : 5 : RCA			N/R	N/R	1500	100 PF	6	GN	FAIL	110 : 3 : GATE(+) SOURCE(-)
	FAILURE CRITERIA:	VGS(OFF) OUT OF SPEC AT VDS=15V AND ID=50UA.								
356 : 6 : RCA			N/R	N/R	1500	100 PF	15	GN	FAIL	110 : 1 : GATE(+) SOURCE(-)
	FAILURE CRITERIA:	VGS(OFF) OUT OF SPEC AT VDS=15V AND ID=50UA.								
356 : 7 : RCA			N/R	N/R	1500	100 PF	20	GN	FAIL	110 : 1 : GATE(+) SOURCE(-)
	FAILURE CRITERIA:	VGS(OFF) OUT OF SPEC AT VDS=15V AND ID=50UA.								
356 : 8 : RCA			N/R	N/R	1500	100 PF	50	GN	FAIL	110 : 1 : GATE(+) SOURCE(-)
	FAILURE CRITERIA:	VGS(OFF) OUT OF SPEC AT VDS=15V AND ID=50UA.								
356 : 9 : RCA			N/R	N/R	1500	100 PF	200	GN	PASS	110 : 1 : GATE(+) SOURCE(-)
	FAILURE CRITERIA:	VGS(OFF) OUT OF SPEC AND/OR IGSSR >25PA AT VGS=8V AND VDS=0V.								
357 : 1 : RCA			N/R	N/R	1500	100 PF	1	GN	FAIL	115 : 12 : GATE(+) SOURCE(-)
	FAILURE CRITERIA:	IGSSR >25PA AT VGS=8V AND VDS=0V.								
357 : 2 : RCA			N/R	N/R	1500	100 PF	1	GN	FAIL	115 : 1 : GATE(+) SOURCE(-)
	FAILURE CRITERIA:	VGS(OFF) OUT OF SPEC AND IGSSR >25PA AT VGS=8V AND VDS=0V.								
357 : 3 : RCA			N/R	N/R	1500	100 PF	3	GN	FAIL	115 : 1 : GATE(+) SOURCE(-)
	FAILURE CRITERIA:	IGSSR >25PA AT VGS=8V AND VDS=0V.								
357 : 4 : RCA			N/R	N/R	1500	100 PF	4	GN	FAIL	115 : 3 : GATE(+) SOURCE(-)
	FAILURE CRITERIA:	VGS(OFF) OUT OF SPEC AT VDS=15V AND ID=50UA.								
357 : 5 : RCA			N/R	N/R	1500	100 PF	5	GN	FAIL	115 : 2 : GATE(+) SOURCE(-)
	FAILURE CRITERIA:	VGS(OFF) OUT OF SPEC AT VDS=15V AND ID=50UA.								
357 : 6 : RCA			N/R	N/R	1500	100 PF	10	GN	FAIL	115 : 1 : GATE(+) SOURCE(-)
	FAILURE CRITERIA:	IGSSR >25PA AT VGS=8V AND VDS=0V.								
357 : 7 : RCA			N/R	N/R	1500	100 PF	25	GN	FAIL	115 : 1 : GATE(+) SOURCE(-)
	FAILURE CRITERIA:	VGS(OFF) OUT OF SPEC AT VDS=15V AND ID=50UA.								

DEVICE TYPE: TRANSISTORS
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

SRC. : SEQ. :	MANUFACTURER :	FULL PART NUM. :	DATE :	TEST :	RES. :	NUMBER :	TEST :	NUM. :
CODE : NUM. :			DATE :	DATE :	(OHMS) :	CAP. :	PULSES :	VOLTAGE : DEV. :
3N128 (CONTINUED) MOSFET (ICFET) N-CHANNEL								
358 :	1 :	RCA :	N/R :	N/R :	1500 :	100 PF :	1 :	GN : FAIL :
FAILURE CRITERIA: IGSSR >25PA AT VGS=8V AND VDS=0V.								
359 :	1 :	RCA :	N/R :	N/R :	1500 :	100 PF :	1 :	GN : FAIL :
FAILURE CRITERIA: IGSSR >25PA AT VGS=8V AND VDS=0V.								
360 :	1 :	RCA :	N/R :	N/R :	1500 :	100 PF :	1 :	GN : FAIL :
FAILURE CRITERIA: IGSSR >25PA AT VGS=8V AND VDS=0V.								

3N170 MOSFET (ICFET) N-CHANNEL

SWITCHING

246 :	1 :	INTERIL :	N/R :	8012 :	N/R :	1500 :	100 PF :	200 :	GN : FAIL :	80 :	1 :	G(+) S(-)
FAILURE CRITERIA: IDSS OUT OF SPEC.												
247 :	1 :	INTERIL :	N/R :	9012 :	N/R :	1500 :	100 PF :	5 :	GN : PASS :	87 :	1 :	G(+) S(-)
FAILURE CRITERIA: IGSSR,VGS(TH) OR IDSS OUT OF SPEC.												
248 :	1 :	INTERIL :	N/R :	8012 :	N/R :	1500 :	100 PF :	200 :	GN : PASS :	90 :	1 :	G(+) S(-)
FAILURE CRITERIA: IGSSR,VGS(TH) OR IDSS OUT OF SPEC.												
248 :	2 :	INTERIL :	N/R :	8012 :	N/R :	1500 :	100 PF :	2 :	GN : FAIL :	90 :	1 :	G(+) S(-)
FAILURE CRITERIA: IDSS OUT OF SPEC.												
248 :	3 :	INTERIL :	N/R :	8012 :	N/R :	1500 :	100 PF :	200 :	GN : PASS :	90 :	7 :	G(+) S(-)
FAILURE CRITERIA: IGSSR,VGS(TH) OR IDSS OUT OF SPEC.												
248 :	4 :	INTERIL :	N/R :	8012 :	N/R :	1500 :	100 PF :	1 :	GN : FAIL :	90 :	1 :	G(+) S(-)
FAILURE CRITERIA: IGSSR OUT OF SPEC.												
248 :	5 :	INTERIL :	N/R :	8012 :	N/R :	1500 :	100 PF :	200 :	GN : FAIL :	90 :	1 :	G(+) S(-)
FAILURE CRITERIA: IGSSR OUT OF SPEC.												
250 :	1 :	INTERIL :	N/R :	8012 :	N/R :	1500 :	100 PF :	70 :	GN : FAIL :	105 :	1 :	G(+) S(-)
FAILURE CRITERIA: IGSSR OUT OF SPEC.												
251 :	1 :	INTERIL :	N/R :	8012 :	N/R :	1500 :	100 PF :	1 :	GN : FAIL :	115 :	1 :	G(+) S(-)
FAILURE CRITERIA: IGSSR OUT OF SPEC.												
251 :	2 :	INTERIL :	N/R :	8012 :	N/R :	1500 :	100 PF :	2 :	GN : PASS :	115 :	1 :	G(+) S(-)
FAILURE CRITERIA: IGSSR,VGS(TH) OR IDSS OUT OF SPEC.												
251 :	3 :	INTERIL :	N/R :	8012 :	N/R :	1500 :	100 PF :	2 :	GN : FAIL :	115 :	1 :	G(+) S(-)
FAILURE CRITERIA: VGS(TH) OUT OF SPEC.												
251 :	4 :	INTERIL :	N/R :	8012 :	N/R :	1500 :	100 PF :	5 :	GN : FAIL :	115 :	1 :	G(+) S(-)
FAILURE CRITERIA: VGS(TH) OUT OF SPEC.												
251 :	5 :	INTERIL :	N/R :	8012 :	N/R :	1500 :	100 PF :	25 :	GN : FAIL :	115 :	1 :	G(+) S(-)
FAILURE CRITERIA: VGS(TH) OUT OF SPEC.												
251 :	6 :	INTERIL :	N/R :	8012 :	N/R :	1500 :	100 PF :	43 :	GN : FAIL :	115 :	1 :	G(+) S(-)
FAILURE CRITERIA: VGS(TH) OUT OF SPEC.												
251 :	7 :	INTERIL :	N/R :	8012 :	N/R :	1500 :	100 PF :	50 :	GN : FAIL :	115 :	1 :	G(+) S(-)
FAILURE CRITERIA: VGS(TH) OUT OF SPEC.												
251 :	8 :	INTERIL :	N/R :	8012 :	N/R :	1500 :	100 PF :	75 :	GN : FAIL :	115 :	1 :	G(+) S(-)
FAILURE CRITERIA: IGSSR AND VGS(TH) OUT OF SPEC.												
251 :	9 :	INTERIL :	N/R :	8012 :	N/R :	1500 :	100 PF :	125 :	GN : FAIL :	115 :	1 :	G(+) S(-)
FAILURE CRITERIA: VGS(TH) OUT OF SPEC.												
251 :	10 :	INTERIL :	N/R :	8012 :	N/R :	1500 :	100 PF :	135 :	GN : FAIL :	115 :	1 :	G(+) S(-)
FAILURE CRITERIA: VGS(TH) OUT OF SPEC.												
251 :	11 :	INTERIL :	N/R :	8012 :	N/R :	1500 :	100 PF :	40 :	GN : FAIL :	115 :	1 :	S(+) G(-)
FAILURE CRITERIA: VGS(TH) AND IDSS OUT OF SPEC.												
252 :	1 :	INTERIL :	N/R :	8012 :	N/R :	1500 :	100 PF :	90 :	GN : FAIL :	125 :	1 :	G(+) S(-)
FAILURE CRITERIA: VGS(TH) OUT OF SPEC.												

DEVICE TYPE: TRANSISTORS
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

SRC. : SEQ. :	MANUFACTURER :	FULL PART NUM. :	DATE :	TEST :	RES. :	CAP. :	PULSES :	TYPE :	RESULT :	VOLTAGE :	DEV. :	PIN COMBINATION :
CODE : NUM. :			CODE :	DATE :	(OHMS) :							
3N170	(CONTINUED)	MOSFET (IGFET) N-CHANNEL										
254	2 : INTERSIL	VGS(TH) OUT OF SPEC.	8012	N/R	1500	100 PF	1	GN	FAIL	140	2	G(+) S(-)
254	3 : INTERSIL	FAILURE CRITERIA: VGS(TH) OUT OF SPEC.	8012	N/R	1500	100 PF	2	GN	FAIL	140	1	G(+) S(-)
254	4 : INTERSIL	FAILURE CRITERIA: IGSSR AND IDSS OUT OF SPEC.	8012	N/R	1500	100 PF	3	GN	FAIL	140	1	G(+) S(-)
254	5 : INTERSIL	FAILURE CRITERIA: VGS(TH) OUT OF SPEC.	8012	N/R	1500	100 PF	4	GN	FAIL	140	1	G(+) S(-)
254	6 : INTERSIL	FAILURE CRITERIA: VGS(TH) OUT OF SPEC.	8012	N/R	1500	100 PF	5	GN	FAIL	140	1	G(+) S(-)
254	7 : INTERSIL	FAILURE CRITERIA: VGS(TH) OUT OF SPEC.	8012	N/R	1500	100 PF	6	GN	FAIL	140	1	G(+) S(-)
254	8 : INTERSIL	FAILURE CRITERIA: IGSSR OUT OF SPEC.	8012	N/R	1500	100 PF	8	GN	FAIL	140	1	G(+) S(-)
254	9 : INTERSIL	FAILURE CRITERIA: IGSSR OUT OF SPEC.	8012	N/R	1500	100 PF	200	GN	PASS	140	2	G(+) S(-)
254	10 : INTERSIL	FAILURE CRITERIA: IGSSR, VGS(TH) OR IDSS OUT OF SPEC.	8012	N/R	1500	100 PF	1	GN	FAIL	140	1	S(+) G(-)
254	11 : INTERSIL	FAILURE CRITERIA: VGS(TH) OUT OF SPEC.	8012	N/R	1500	100 PF	2	GN	FAIL	140	1	S(+) G(-)
255	1 : INTERSIL	FAILURE CRITERIA: VGS(TH) AND IDSS OUT OF SPEC.	8012	N/R	1500	100 PF	19	GN	FAIL	145	1	G(+) S(-)
256	1 : INTERSIL	FAILURE CRITERIA: VGS(TH) AND IDSS OUT OF SPEC.	8012	N/R	1500	100 PF	45	GN	FAIL	150	1	G(+) S(-)
256	2 : INTERSIL	FAILURE CRITERIA: VGS(TH) OUT OF SPEC.	8012	N/R	1500	100 PF	21	G	FAIL	150	1	G(+) S(-)
256	3 : INTERSIL	FAILURE CRITERIA: IGSSR AND VGS(TH) OUT OF SPEC.	8012	N/R	1500	100 PF	1	GN	FAIL	150	1	S(+) G(-)
256	4 : INTERSIL	FAILURE CRITERIA: VGS(TH) AND IDSS OUT OF SPEC.	8012	N/R	1500	100 PF	200	GN	FAIL	150	1	G(+) S(-)
257	1 : INTERSIL	FAILURE CRITERIA: VGS(TH) OUT OF SPEC.	8012	N/R	1500	100 PF	1	GN	PASS	152	9	G(+) S(-)
257	2 : INTERSIL	FAILURE CRITERIA: IGSSR, VGS(TH) OR IDSS OUT OF SPEC.	8012	N/R	1500	100 PF	1	GN	FAIL	152	1	G(+) S(-)
258	1 : INTERSIL	FAILURE CRITERIA: VGS(TH) OUT OF SPEC.	8012	N/R	1500	100 PF	3	GN	FAIL	160	1	G(+) S(-)
259	2 : INTERSIL	FAILURE CRITERIA: IGSSR AND VGS(TH) OUT OF SPEC.	8012	N/R	1500	100 PF	1	GN	FAIL	165	1	G(+) S(-)
259	3 : INTERSIL	FAILURE CRITERIA: VGS(TH) OUT OF SPEC.	8012	N/R	1500	100 PF	1	GN	FAIL	165	5	G(+) S(-)
259	4 : INTERSIL	FAILURE CRITERIA: VGS(TH) OUT OF SPEC.	8012	N/R	1500	100 PF	2	GN	FAIL	165	2	G(+) S(-)
259	5 : INTERSIL	FAILURE CRITERIA: VGS(TH) OUT OF SPEC.	8012	N/R	1500	100 PF	5	GN	FAIL	165	1	G(+) S(-)
259	6 : INTERSIL	FAILURE CRITERIA: VGS(TH) OUT OF SPEC.	8012	N/R	1500	100 PF	10	GN	FAIL	165	1	G(+) S(-)
259	7 : INTERSIL	FAILURE CRITERIA: VGS(TH) AND IDSS OUT OF SPEC.	8012	N/R	1500	100 PF	35	GN	FAIL	165	1	G(+) S(-)

[illegible]

SRC. :	SEQ.:	MANUFACTURER	:	DATE :	TEST :	RES. :	:	NUMBER :	TEST :	:	NUM. :
CODE :	NUM.:		:	CODE :	DATE :	(OHMS):	:	CAP. :	PULSES :	TYPE :	RESULT:
			:				:				VOLTAGE: DEV. :
			:				:				PIN COMBINATION

3N170 (CONTINUED) MOSFET (IGFET) N-CHANNEL SWITCHING

2259	:	8 :	INTERSTIL FAILURE CRITERIA:	VGS(TH) AND IDSS OUT OF SPEC.	N/R	:	8012 :	N/R	:	1500 :	100 PF :	19 :	GN :	FAIL :	165 :	1 :	G(+)	S(-)
2259	:	9 :	INTERSTIL	N/R	:	8012 :	N/R	:	1500 :	100 PF :	59 :	GN :	FAIL :	165 :	1 :	G(+)	S(-)	
2260	:	1 :	INTERSTIL	N/R	:	8012 :	N/R	:	1500 :	100 PF :	2 :	GN :	FAIL :	170 :	1 :	G(+)	S(-)	
2261	:	1 :	INTERSTIL	N/R	:	8012 :	N/R	:	1500 :	100 PF :	1 :	GN :	FAIL :	171 :	6 :	G(+)	S(-)	
2261	:	2 :	INTERSTIL	N/R	:	8012 :	N/R	:	1500 :	100 PF :	1 :	GN :	FAIL :	171 :	3 :	G(+)	S(-)	
2261	:	3 :	INTERSTIL	N/R	:	8012 :	N/R	:	1500 :	100 PF :	1 :	GN :	PASS :	171 :	1 :	G(+)	S(-)	
2263	:	1 :	INTERSTIL	N/R	:	8012 :	N/R	:	1500 :	100 PF :	2 :	GN :	FAIL :	180 :	1 :	G(+)	S(-)	
2265	:	1 :	INTERSTIL	N/R	:	8012 :	N/R	:	1500 :	100 PF :	1 :	GN :	FAIL :	190 :	1 :	G(+)	S(-)	
2265	:	4 :	INTERSTIL	N/R	:	8012 :	N/R	:	1500 :	100 PF :	1 :	GN :	FAIL :	190 :	9 :	G(+)	S(-)	
2265	:	5 :	INTERSTIL	N/R	:	8012 :	N/R	:	1500 :	100 PF :	1 :	GN :	FAIL :	190 :	1 :	G(+)	S(-)	
2268	:	1 :	INTERSTIL	N/R	:	8012 :	N/R	:	1500 :	100 PF :	1 :	GN :	FAIL :	190 :	1 :	G(+)	S(-)	
2268	:	2 :	INTERSTIL	N/R	:	8012 :	N/R	:	1500 :	100 PF :	1 :	GN :	FAIL :	200 :	1 :	G(+)	S(-)	
2268	:	2 :	INTERSTIL	N/R	:	8012 :	N/R	:	1500 :	100 PF :	1 :	GN :	FAIL :	200 :	2 :	G(+)	S(-)	

[illegible]

SEC. :	SEQ. :	DATE :	TEST :	RES. :	NUMBER :	TEST :	NUM. :
CODE :	NUM. :	CODE :	DATE :	(OHMS) :	CAP. :	PULSES :	VOLTAGE :
MANUFACTURER				DEV. :			
FULL PART NUM.				TYPE :			
PIN COMBINATION				RESULT :			

2N1596 TRIODE, POWER, REVERSE BLOCKING (SCR)

0209 : 18 : TEXAS INSTRUMENTS : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 24381 : 1 : B E
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.

REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.:

2N1602 TRIODE, POWER, REVERSE BLOCKING (SCR)

029 : 19 : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 18860 : 1 : B E

REMARK: FAILURE VOLTAGE OBTAINED FROM EHP DATA AND WUNSCH MODEL.

REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.

2N1774A	TRIODE, POWER, REVERSE BLOCKING (SCR)
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
11	11
12	12
13	13
14	14
15	15
16	16
17	17
18	18
19	19
20	20
21	21
22	22
23	23
24	24
25	25
26	26
27	27
28	28
29	29
30	30
31	31
32	32
33	33
34	34
35	35
36	36
37	37
38	38
39	39
40	40
41	41
42	42
43	43
44	44
45	45
46	46
47	47
48	48
49	49
50	50
51	51
52	52
53	53
54	54
55	55
56	56
57	57
58	58
59	59
60	60
61	61
62	62
63	63
64	64
65	65
66	66
67	67
68	68
69	69
70	70
71	71
72	72
73	73
74	74
75	75
76	76
77	77
78	78
79	79
80	80
81	81
82	82
83	83
84	84
85	85
86	86
87	87
88	88
89	89
90	90
91	91
92	92
93	93
94	94
95	95
96	96
97	97
98	98
99	99
100	100

030 : 701 : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 15000 : 1 : N/R
FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

2N1777A TRIODE, POWER, REVERSE BLOCKING (SCR)

029 : 26 : GENERAL ELECTRIC : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 59685 : 1 : B E
REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.

REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.

2N2323	TRIODE, POWER, REVERSE BLOCKING (SCR)
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
11	11
12	12
13	13
14	14
15	15
16	16
17	17
18	18
19	19
20	20
21	21
22	22
23	23
24	24
25	25
26	26
27	27
28	28
29	29
30	30
31	31
32	32
33	33
34	34
35	35
36	36
37	37
38	38
39	39
40	40
41	41
42	42
43	43
44	44
45	45
46	46
47	47
48	48
49	49
50	50
51	51
52	52
53	53
54	54
55	55
56	56
57	57
58	58
59	59
60	60
61	61
62	62
63	63
64	64
65	65
66	66
67	67
68	68
69	69
70	70
71	71
72	72
73	73
74	74
75	75
76	76
77	77
78	78
79	79
80	80
81	81
82	82
83	83
84	84
85	85
86	86
87	87
88	88
89	89
90	90
91	91
92	92
93	93
94	94
95	95
96	96
97	97
98	98
99	99
100	100

029 : 36 : GENERAL ELECTRIC : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 16543 : 1 : E B
REMARK: FAILURE VOLTAGE OBTAINED FROM ENP DATA AND WUNSCH MODEL.

REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.

2N2346	TRIODE, POWER, REVERSE BLOCKING (SCR)
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
11	11
12	12
13	13
14	14
15	15
16	16
17	17
18	18
19	19
20	20
21	21
22	22
23	23
24	24
25	25
26	26
27	27
28	28
29	29
30	30
31	31
32	32
33	33
34	34
35	35
36	36
37	37
38	38
39	39
40	40
41	41
42	42
43	43
44	44
45	45
46	46
47	47
48	48
49	49
50	50
51	51
52	52
53	53
54	54
55	55
56	56
57	57
58	58
59	59
60	60
61	61
62	62
63	63
64	64
65	65
66	66
67	67
68	68
69	69
70	70
71	71
72	72
73	73
74	74
75	75
76	76
77	77
78	78
79	79
80	80
81	81
82	82
83	83
84	84
85	85
86	86
87	87
88	88
89	89
90	90
91	91
92	92
93	93
94	94
95	95
96	96
97	97
98	98
99	99
100	100

029 : 37 : GENERAL ELECTRIC : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 58170 : 1 : E B
REMARK: FAILURE VOLTAGE OBTAINED FROM EXP DATA AND WUNSCH MODEL.

REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL:

2N3030	TRIODE, POWER, REVERSE BLOCKING (SCR)
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
11	11
12	12
13	13
14	14
15	15
16	16
17	17
18	18
19	19
20	20
21	21
22	22
23	23
24	24
25	25
26	26
27	27
28	28
29	29
30	30
31	31
32	32
33	33
34	34
35	35
36	36
37	37
38	38
39	39
40	40
41	41
42	42
43	43
44	44
45	45
46	46
47	47
48	48
49	49
50	50
51	51
52	52
53	53
54	54
55	55
56	56
57	57
58	58
59	59
60	60
61	61
62	62
63	63
64	64
65	65
66	66
67	67
68	68
69	69
70	70
71	71
72	72
73	73
74	74
75	75
76	76
77	77
78	78
79	79
80	80
81	81
82	82
83	83
84	84
85	85
86	86
87	87
88	88
89	89
90	90
91	91
92	92
93	93
94	94
95	95
96	96
97	97
98	98
99	99
100	100

048	23	N/R	N/R	N/R	218	PF	1	SS	FAIL	1000	1	N/R
FAILURE CRITERIA: 50% INCREASE IN GATE LEAKAGE CURRENT												

FAILURE CRITERIA: 50% INCREASE IN GATE LEAKAGE CURRENT

2M685	TRIODE, POWER, REVERSE BLOCKING (SCR)
1	100
2	100
3	100
4	100
5	100
6	100
7	100
8	100
9	100
10	100
11	100
12	100
13	100
14	100
15	100
16	100
17	100
18	100
19	100
20	100
21	100
22	100
23	100
24	100
25	100
26	100
27	100
28	100
29	100
30	100
31	100
32	100
33	100
34	100
35	100
36	100
37	100
38	100
39	100
40	100
41	100
42	100
43	100
44	100
45	100
46	100
47	100
48	100
49	100
50	100
51	100
52	100
53	100
54	100
55	100
56	100
57	100
58	100
59	100
60	100
61	100
62	100
63	100
64	100
65	100
66	100
67	100
68	100
69	100
70	100
71	100
72	100
73	100
74	100
75	100
76	100
77	100
78	100
79	100
80	100
81	100
82	100
83	100
84	100
85	100
86	100
87	100
88	100
89	100
90	100
91	100
92	100
93	100
94	100
95	100
96	100
97	100
98	100
99	100
100	100

0209 : 91 : GENERAL ELECTRIC : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 26756 : 1 : B E
REMARK: FAILURE VOLTAGE OBTAINED FROM EXP DATA AND WUNSCH MODEL.

REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.

2N687 TRIODE, POWER, REVERSE BLOCKING (SCR)

0209 : 92 : GENERAL ELECTRIC : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 88223 : 1 : B E
REMARK: FAILURE VOLTAGE OBTAINED FROM EXP DATA AND HUNSCHE MODEL.

REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL.:

2N886A	TRIODE, POWER, REVERSE BLOCKING (SCR)
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
11	11
12	12
13	13
14	14
15	15
16	16
17	17
18	18
19	19
20	20
21	21
22	22
23	23
24	24
25	25
26	26
27	27
28	28
29	29
30	30
31	31
32	32
33	33
34	34
35	35
36	36
37	37
38	38
39	39
40	40
41	41
42	42
43	43
44	44
45	45
46	46
47	47
48	48
49	49
50	50
51	51
52	52
53	53
54	54
55	55
56	56
57	57
58	58
59	59
60	60
61	61
62	62
63	63
64	64
65	65
66	66
67	67
68	68
69	69
70	70
71	71
72	72
73	73
74	74
75	75
76	76
77	77
78	78
79	79
80	80
81	81
82	82
83	83
84	84
85	85
86	86
87	87
88	88
89	89
90	90
91	91
92	92
93	93
94	94
95	95
96	96
97	97
98	98
99	99
100	100

048 : 22 : N/R : N/R : 100 : 218 PF : 1 : SS : FAIL : 680 : 1 : N/R
FAILURE CRITERIA: 50% INCREASE IN GATE LEAKAGE CURRENT

FAILURE CRITERIA: 50% INCREASE IN GATE LEAKAGE CURRENT

DEVICE TYPE: OPTOELECTRONIC DEVICES

BASIC PART NUMBER DESCRIPTION

SRC. : SEQ. : : DATE : TEST : RES. : : NUMBER : TEST : : NUM. :
 CODE : NUM. : MANUFACTURER : FULL PART NUM. : CODE : DATE : (ORMS) : CAP. : PULSES : TYPE : RESULT : VOLTAGE : DEV. : PIN COMBINATION

FLV104 LIGHT EMITTING DIODE

386 : 3 : FAIRCHILD SEMI : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 17160 : 1 : A(+) C(-)
 REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA. FAILURE CRITERIA: LIGHT OUTPUT DEGRADATION AT CONSTANT CURRENT.
 386 : 4 : FAIRCHILD SEMI : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 4400 : 1 : C(+) A(-)
 REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA. FAILURE CRITERIA: LIGHT OUTPUT DEGRADATION AT CONSTANT CURRENT.

FLV152 LIGHT EMITTING DIODE

386 : 1 : FAIRCHILD SEMI : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 20580 : 1 : A(+) C(-)
 REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA. FAILURE CRITERIA: LIGHT OUTPUT DEGRADATION AT CONSTANT CURRENT.
 386 : 2 : FAIRCHILD SEMI : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 5310 : 1 : C(+) A(-)
 REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA. FAILURE CRITERIA: LIGHT OUTPUT DEGRADATION AT CONSTANT CURRENT.

IRL60 LIGHT EMITTING DIODE

386 : 13 : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 15870 : 1 : A(+) C(-)
 REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA. FAILURE CRITERIA: LIGHT OUTPUT DEGRADATION AT CONSTANT CURRENT.
 386 : 14 : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 4060 : 1 : C(+) A(-)
 REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA. FAILURE CRITERIA: LIGHT OUTPUT DEGRADATION AT CONSTANT CURRENT.

MC72 PHOTOTRANSISTOR OUTPUT

030 : 710 : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 9000 : 1 : N/R
 FAILURE CRITERIA: PARAMETER CHANGE OF GREATER THAN 10%

ME60 LIGHT EMITTING DIODE

386 : 7 : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 15680 : 1 : A(+) C(-)
 REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA. FAILURE CRITERIA: LIGHT OUTPUT DEGRADATION AT CONSTANT CURRENT.
 386 : 8 : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 4010 : 1 : C(+) A(-)
 REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA. FAILURE CRITERIA: LIGHT OUTPUT DEGRADATION AT CONSTANT CURRENT.

MLD900 LIGHT EMITTING DIODE

386 : 9 : MOTOROLA SEMI : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 19850 : 1 : A(+) C(-)
 REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA. FAILURE CRITERIA: LIGHT OUTPUT DEGRADATION AT CONSTANT CURRENT.
 386 : 10 : MOTOROLA SEMI : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 5120 : 1 : C(+) A(-)
 REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA. FAILURE CRITERIA: LIGHT OUTPUT DEGRADATION AT CONSTANT CURRENT.

MP-108 LIGHT EMITTING DIODE

386 : 5 : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 31950 : 1 : A(+) C(-)
 REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA. FAILURE CRITERIA: LIGHT OUTPUT DEGRADATION AT CONSTANT CURRENT.
 386 : 6 : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 8320 : 1 : C(+) A(-)
 REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA. FAILURE CRITERIA: LIGHT OUTPUT DEGRADATION AT CONSTANT CURRENT.

5082-4885 LIGHT EMITTING DIODE

386 : 11 : SEMLETT PACKARD : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 22340 : 1 : A(+) C(-)
 REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA. FAILURE CRITERIA: LIGHT OUTPUT DEGRADATION AT CONSTANT CURRENT.

DEVICE TYPE: OPTOELECTRONIC DEVICES

(CONTINUED)

BASIC PART NUMBER DESCRIPTION

SEC.: SEQ.: : DATE : TEST : RES.: : NUMBER : TEST : : NUM.:
 CODE : MON.: : FULL PART NUM. : CODE : DATE : (CHMS): CAP. : PULSES : TYPE : RESULT: VOLTAGE: DEV. : PIN COMBINATION

5082-4885 (CONTINUED) LIGHT EMITTING DIODE

386 : 12 : HEWLETT PACKARD : N/R : N/R : N/R : 1500 : 100 PF : 1 : N/R : FAIL : 5770 : 1 : C(+) A(-)

REMARK: FAILURE VOLTAGE OBTAINED FROM EMP DATA. FAILURE CRITERIA: LIGHT OUTPUT DEGRADATION AT CONSTANT CURRENT.

DEVICE TYPE: RESISTORS

BASIC PART NUMBER	DESCRIPTION	SRC. : SEQ. : CODE : NUM. :	MANUFACTURER	FULL PART NUM. :	DATE : TEST : : CODE : DATE :	RES. : : (OHMS) :	CAP. : : PULSES :	TYPE : : RESULT :	VOLTAGE : : DEV. :	PIN COMBINATION
RNC55H	METAL FILM									
026	DALE ELECTRONICS		N/R		N/R : FEB 81 : 100 : 200 PF :	1 : SS : FAIL :	3000 :	4 :		N/R
	REMARK: VOLTAGE IS AN AVERAGE OF 4 DEVICES				FAILURE CRITERIA: RESISTANCE CHANGE OF .1%					
RNC55H3322	FILM RESISTOR									
					33.22K OHMS .1%					
079	2 : N/R		RNC55H3322BSCJ		7836 : N/R : 1000 : 200 PF :	1 : SS : PASS :	2000 :	1 :		N/R
	FAILURE CRITERIA: CHANGE IN RESISTANCE OF .1%									
084	1 : N/R		RNC55H3322BSJ		7835 : N/R : 1000 : 200 PF :	1 : SS : FAIL :	3500 :	1 :		N/R
	FAILURE CRITERIA: CHANGE IN RESISTANCE OF .1%									
084	2 : N/R		RNC55H3322BSCJ		7836 : N/R : 1000 : 200 PF :	1 : SS : PASS :	4000 :	1 :		N/R
	FAILURE CRITERIA: CHANGE IN RESISTANCE OF .1%									
084	3 : N/R		RNC55H3322BSCJ		7836 : N/R : 1000 : 200 PF :	1 : SS : FAIL :	1000 :	2 :		N/R
	FAILURE CRITERIA: CHANGE IN RESISTANCE OF .1%									
084	4 : N/R		RNC55H3322BSCJ		7835 : N/R : 1000 : 200 PF :	1 : SS : FAIL :	3000 :	1 :		N/R
	FAILURE CRITERIA: CHANGE IN RESISTANCE OF .1%									
RNC55H68	FILM RESISTOR									
					68 OHMS .1%					
086	1 : N/R		RNC55H68RIFSCJ		7818 : N/R : 1000 : 200 PF :	1 : SS : FAIL :	15000 :	3 :		N/R
	FAILURE CRITERIA: CHANGE IN RESISTANCE OF .1%									
RN50H1692	FILM RESISTOR									
					16.9K OHMS .1%					
074	1 : N/R		RN50H1692BS		7811 : N/R : 0 : 200 PF :	1 : SS : FAIL :	200 :	1 :		N/R
	FAILURE CRITERIA: CHANGE IN RESISTANCE OF .1%									
075	1 : N/R		RN50H1692BS		7807 : N/R : 1000 : 200 PF :	1 : SS : PASS :	1000 :	1 :		N/R
	FAILURE CRITERIA: CHANGE IN RESISTANCE OF .1%									
075	2 : N/R		RN50H1692BS		7808 : N/R : 1000 : 200 PF :	1 : SS : PASS :	1000 :	1 :		N/R
	FAILURE CRITERIA: CHANGE IN RESISTANCE OF .1%									
078	2 : N/R		RN50H1692BS		7807 : N/R : 1000 : 200 PF :	1 : SS : PASS :	1000 :	1 :		N/R
	FAILURE CRITERIA: CHANGE IN RESISTANCE OF .1%									
078	3 : N/R		RN50H1692BS		7807 : N/R : 1000 : 200 PF :	1 : SS : FAIL :	1000 :	1 :		N/R
	FAILURE CRITERIA: CHANGE IN RESISTANCE OF .1%									
078	4 : N/R		RN50H1692BS		7811 : N/R : 1000 : 200 PF :	1 : SS : FAIL :	1000 :	2 :		N/R
	FAILURE CRITERIA: CHANGE IN RESISTANCE OF .1%									
081	1 : N/R		RN50H1692BS		7811 : N/R : 1000 : 200 PF :	1 : SS : FAIL :	2000 :	1 :		N/R
	FAILURE CRITERIA: CHANGE IN RESISTANCE OF .1%									
082	1 : N/R		RN50H1692BS		7811 : N/R : 1000 : 200 PF :	1 : GN : FAIL :	4000 :	1 :		N/R
	FAILURE CRITERIA: CHANGE IN RESISTANCE OF .1%									
085	1 : N/R		RN50H1692BS		7808 : N/R : 1000 : 200 PF :	1 : SS : FAIL :	1100 :	1 :		N/R
	FAILURE CRITERIA: CHANGE IN RESISTANCE OF .1%									
RN50H4532	FILM RESISTOR									
					045.3K OHMS .1%					
076	1 : N/R		RN50H4532BS		7819 : N/R : 1000 : 200 PF :	1 : SS : PASS :	2000 :	1 :		N/R
	FAILURE CRITERIA: CHANGE IN RESISTANCE OF .1%									
077	1 : N/R		RN50H4532BS		7819 : N/R : 1000 : 200 PF :	1 : SS : PASS :	2500 :	1 :		N/R
	FAILURE CRITERIA: CHANGE IN RESISTANCE OF .1%									

DEVICE TYPE: RESISTORS
(CONTINUED)

BASIC PART NUMBER DESCRIPTION

SER. : SEQ. : CODE : NUM. :	MANUFACTURER :	FULL PART NUM. :	DATE : TEST : RES. : : CODE : DATE : (OHMS) :	CAP. : :	PULSES : TYPE : :	NUMBER : TEST : :	VOLTAGE : DEV. : :	PIN COMBINATION :
RM5084532 (CONTINUED) FILM RESISTOR								
45.3K .1X								
078 : 1 :	N/R	RM5084532BS	7819 : N/R	1000 : 200 PF	1 : SS	FAIL : 1000 : 1 :		N/R
FAILURE CRITERIA: CHANGE IN RESISTANCE OF .1X								
079 : 1 :	N/R	RM5084532BS	7819 : N/R	1000 : 200 PF	1 : SS	PASS : 2000 : 1 :		N/R
FAILURE CRITERIA: CHANGE IN RESISTANCE OF .1X								
080 : 1 :	N/R	RM5084532BS	7818 : N/R	1000 : 200 PF	1 : SS	FAIL : 1500 : 1 :		N/R
FAILURE CRITERIA: CHANGE IN RESISTANCE OF .1X								
083 : 1 :	N/R	RM5084532BS	7819 : N/R	0 : 200 PF	1 : SS	FAIL : 2000 : 1 :		N/R
FAILURE CRITERIA: CHANGE IN RESISTANCE OF .1X								

0181A00361 METAL FILM

100 OHMS

071 : 1 :	BECKMAN INSTRUMENTS	N/R	N/R : JUL 79	1500 : 100 PF	10 : GN	FAIL : 15000 : 1 :		N/R
FAILURE CRITERIA: CHANGE IN RESISTANCE OF 2X								
071 : 2 :	BECKMAN INSTRUMENTS	N/R	N/R : JUL 79	1500 : 100 PF	10 : GN	FAIL : 15000 : 1 :		N/R
FAILURE CRITERIA: CHANGE IN RESISTANCE OF 2X								
071 : 3 :	BECKMAN INSTRUMENTS	N/R	N/R : JUL 79	1500 : 100 PF	10 : GN	FAIL : 15000 : 1 :		N/R
FAILURE CRITERIA: CHANGE IN RESISTANCE OF 2X								
072 : 1 :	BECKMAN INSTRUMENTS	N/R	N/R : JUL 79	1500 : 100 PF	10 : GN	PASS : 2000 : 1 :		N/R
FAILURE CRITERIA: CHANGE IN RESISTANCE OF 2X								
072 : 2 :	BECKMAN INSTRUMENTS	N/R	N/R : JUL 79	1500 : 100 PF	10 : GN	FAIL : 2000 : 1 :		N/R
FAILURE CRITERIA: CHANGE IN RESISTANCE OF 2X								
072 : 3 :	BECKMAN INSTRUMENTS	N/R	N/R : JUL 79	1500 : 100 PF	10 : GN	FAIL : 2000 : 1 :		N/R
FAILURE CRITERIA: CHANGE IN RESISTANCE OF 2X								
073 : 1 :	BECKMAN INSTRUMENTS	N/R	N/R : JUL 79	1500 : 100 PF	10 : GN	PASS : 170 : 1 :		N/R
FAILURE CRITERIA: CHANGE IN RESISTANCE OF 2X								
073 : 2 :	BECKMAN INSTRUMENTS	N/R	N/R : JUL 79	1500 : 100 PF	10 : GN	PASS : 170 : 1 :		N/R
FAILURE CRITERIA: CHANGE IN RESISTANCE OF 2X								
073 : 3 :	BECKMAN INSTRUMENTS	N/R	N/R : JUL 79	1500 : 100 PF	10 : GN	PASS : 170 : 1 :		N/R
FAILURE CRITERIA: CHANGE IN RESISTANCE OF 2X								

0181A00363 METAL FILM

470 OHMS

071 : 4 :	BECKMAN INSTRUMENTS	N/R	N/R : JUL 79	1500 : 100 PF	10 : GN	FAIL : 15000 : 1 :		N/A
FAILURE CRITERIA: CHANGE IN RESISTANCE OF 2X								
071 : 5 :	BECKMAN INSTRUMENTS	N/R	N/R : JUL 79	1500 : 100 PF	10 : GN	FAIL : 15000 : 1 :		N/R
FAILURE CRITERIA: CHANGE IN RESISTANCE OF 2X								
071 : 6 :	BECKMAN INSTRUMENTS	N/R	N/R : JUL 79	1500 : 100 PF	10 : GN	FAIL : 15000 : 1 :		N/R
FAILURE CRITERIA: CHANGE IN RESISTANCE OF 2X								
072 : 4 :	BECKMAN INSTRUMENTS	N/R	N/R : JUL 79	1500 : 100 PF	10 : GN	PASS : 2000 : 1 :		N/R
FAILURE CRITERIA: CHANGE IN RESISTANCE OF 2X								
072 : 5 :	BECKMAN INSTRUMENTS	N/R	N/R : JUL 79	1500 : 100 PF	10 : GN	FAIL : 2000 : 1 :		N/R
FAILURE CRITERIA: CHANGE IN RESISTANCE OF 2X								
072 : 6 :	BECKMAN INSTRUMENTS	N/R	N/R : JUL 79	1500 : 100 PF	10 : GN	FAIL : 2000 : 1 :		N/R
FAILURE CRITERIA: CHANGE IN RESISTANCE OF 2X								
073 : 4 :	BECKMAN INSTRUMENTS	N/R	N/R : JUL 79	1500 : 100 PF	10 : GN	PASS : 170 : 1 :		N/R
FAILURE CRITERIA: CHANGE IN RESISTANCE OF 2X								
073 : 5 :	BECKMAN INSTRUMENTS	N/R	N/R : JUL 79	1500 : 100 PF	10 : GN	PASS : 170 : 1 :		N/R
FAILURE CRITERIA: CHANGE IN RESISTANCE OF 2X								

SECTION 3

Detailed Device Classification Data

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DETAILED DEVICE CLASSIFICATION DATA

The following tables consist of all the electronic parts RAC has ESD susceptibility test data on. The devices have been classified in accordance with DOD-STD-1686 and DOD-HDBK-263. It is important to note that the majority of the devices have not actually been tested in accordance with the test method of DOD-STD-1686 but instead the failure thresholds were determined from the available data on that part and classified accordingly. If the data was taken using a model other than the standard 100 pF, 1500 ohm human body model then the threshold voltage was converted, using the formulae given in Section 1, to an approximate value consistent with the 100 pF, 1500 ohm model. Derivation of these formulae may be found in Appendix A.

The voltage susceptibility levels found in this printout are divided into four classes defined as follows:

Class 1	0 - 1000V
Class 2	1001 - 4000V
Class 3	4001 - 15000V
N	> 15000V

N is used in this listing to indicate that a device is sensitive only above 15,000 volts and therefore is not considered to be sensitive in accordance with DOD-STD-1686 or DOD-HDBK-263.

If a device's sensitivity is not well-defined or is borderline between two classes, it is depicted with a dash (i.e., 1-2, 2-3, 3-N).

This section is divided into four parts:

<u>Section</u>	<u>Description</u>
3A	Microcircuits in Generic Part Number Order
3B	Microcircuits in Military Part Number Order
3C	Discrete Components in Generic Part Number Order
3D	Discrete Components in Military Part Number Order

NOTES FOR USE OF CLASSIFICATION INFORMATION

- (1) If data was obtained on a commercial part, it may be listed with an associated MIL-M-38510 slash number. Although the commercial devices cannot be on a slash sheet, they are listed as such since commercial devices are electrically equivalent to military ones as far as ESD is concerned.
- (2) The device description is only intended to provide a very brief description to distinguish between different parts that may have the same basic part number. A more complete description can be found in the Detailed Data section.
- (3) If no date exists for a certain part it is suggested that a military or commercial equivalent device be located since they should be essentially the same for ESD considerations, i.e., 5400 series vs. 7400 series.

SECTION 3A

MICROCIRCUITS IN GENERIC PART NUMBER ORDER

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BASE PART NUMBER	MIL-M-38510	DEVICE	DESCRIPTION	CLASS
XC401		IIL	GATE	2-3
XC402		IIL	GATE	2-3
XC404		IIL	FLIP-FLOP	2-3
045B0		PMOS	SSI/MSI	3
100		CMOS	CONVERTER (D/A A/D)	2
101		BIPOLAR	OP AMP	1
101A	10103	BIPOLAR	OP AMP	1-2
10102		ECL	GATE	1
10130		ECL	LATCH	1
10146		ECL	RAM	1
103	14X01	BIPOLAR	VOLTAGE REGULATOR	3
105		BIPOLAR	VOLTAGE REGULATOR	2
10501	06001	ECL	GATE	2
10518		ECL	GATE	2
108		BIPOLAR	OP AMP	1
109	10701	BIPOLAR	VOLTAGE REGULATOR	3
11011		PMOS	STATIC RAM	2
111	10304	BIPOLAR	COMPARATOR	1
11201		JFET	SWITCH	3
11331		JFET	SWITCH	3
117		BIPOLAR	VOLTAGE REGULATOR	3
118	10107	BIPOLAR	OP AMP	3
119		BIPOLAR	COMPARATOR	2
120		BIPOLAR	VOLTAGE REGULATOR	3
124	11005	BIPOLAR	OP AMP	2
13201		JFET	SWITCH	3
139	11201	BIPOLAR	COMPARATOR	2
140		TTL	GATE	N
140	10706	BIPOLAR	VOLTAGE REGULATOR	3
14000		CMOS	GATE	2
14001A	05202	CMOS	GATE	1
14001B	05252	CMOS	GATE	2
14013A	05101	CMOS	FLIP-FLOP	2
14013B	05151	CMOS	FLIP-FLOP	2
14018		CMOS	COUNTER	2
14021		PMOS	SHIFT REGISTER	2-3
14046		CMOS	PHASE LOCK LOOP	1
14049		CMOS	BUFFER/INVERTER	1
14049A	05503	CMOS	BUFFER/INVERTER	1
14049B		CMOS	BUFFER/INVERTER	1
14050		CMOS	BUFFER/INVERTER	1
14053B	1XX02	CMOS	SWITCH	1-2
14069B		CMOS	BUFFER/INVERTER	1
1408		BIPOLAR	CONVERTER (D/A A/D)	3
14511		CMOS	DECODER	2
14519		CMOS	GATE	2
1458		BIPOLAR	OP AMP	2
1463		BIPOLAR	VOLTAGE REGULATOR	3
148	11001	BIPOLAR	OP AMP	2
1488		BIPOLAR	DRIVER	3
1489		BIPOLAR	RECEIVER	2-3
1494		BIPOLAR	LINEAR	2
1496		BIPOLAR	LINEAR	2
1506		BIPOLAR	CONVERTER (D/A A/D)	2
1508		BIPOLAR	CONVERTER (D/A A/D)	3
1530		BIPOLAR	OP AMP	2
1533		BIPOLAR	OP AMP	1-2
155	11401	BIFET	OP AMP	3
1558	10108	BIPOLAR	OP AMP	2
156	11402	BIFET	OP AMP	2
1563		BIPOLAR	VOLTAGE REGULATOR	2
157	11403	BIFET	OP AMP	3
1590		BIPOLAR	OP AMP	3
1594		BIPOLAR	LINEAR	2
15946		DTL	GATE	N
1596		BIPOLAR	LINEAR	2
1678		ECL	COUNTER	3
180		DTL	GATE	3
1802		CMOS	MICROPROCESSOR	1
1822	47102	CMOS	RAM	2
1852	47301	CMOS	SSI/MSI	1
190		JFET	SWITCH	2
198	12501	BIFET	LINEAR	2

BASE PART NUMBER	MIL-M-38510	DEVICE	DESCRIPTION	CLASS
2001		TTL	SHIFT REGISTER	3
201	12302	CMOS	SWITCH	1-2
201	12304	CMOS	SWITCH	2
2031		NMOS	EAPROM	1
2102		NMOS	STATIC RAM	1
211		BIPOLAR	COMPARATOR	3
2111		CMOS	STATIC RAM	1
2114	23802	MOS	STATIC RAM	1
2141	2XX03	NMOS	STATIC RAM	1
2147	23801	MOS	STATIC RAM	1
2255		CMOS	GATE	1
2401	2XX01	NMOS	ROM	1
2516	22101	NMOS	EPROM	1
26LS31	14X01	LSTTL	DRIVER	1-2
26LS32	14X02	LSTTL	RECEIVER	1-2
2622		BIPOLAR	OP AMP	2
2650		BIPOLAR	OP AMP	1-2
27S13		STTL	PROM	1
27S19C		STTL	PROM	1
27S20		STTL	PROM	1-2
2702		BIPOLAR	VOLTAGE REFERENCE	1
2704	22001	NMOS	EPROM	1
2716	22101	NMOS	EPROM	1
2732	22202	NMOS	EPROM	1
2901		LSTTL	MICROPROCESSOR	1
2909		LSTTL	MICROPROCESSOR	1-2
2910	44501	TTL	MICROPROCESSOR	1-2
2930		LSTTL	MICROPROCESSOR	1-2
301		BIPOLAR	OP AMP	1-2
301		ECL	GATE	N
3015		BIPOLAR	OP AMP	2
302		BIPOLAR	OP AMP	3
304		ECL	DRIVER	3
308		ECL	FLIP-FLOP	3
308		BIPOLAR	OP AMP	1-2
309		BIPOLAR	VOLTAGE REGULATOR	3
3101		STTL	STATIC RAM	3
311		CCD	SHIFT REGISTER	1
311		BIPOLAR	COMPARATOR	3
317		ECL	CONVERTER (D/A A/D)	3
317		BIPOLAR	VOLTAGE REGULATOR	3
318		BIPOLAR	OP AMP	3
319		BIPOLAR	COMPARATOR	1-2
320		BIPOLAR	VOLTAGE REGULATOR	3
324		BIPOLAR	OP AMP	1-2
331		CMOS	CONVERTER (D/A A/D)	1
339	11201	BIPOLAR	COMPARATOR	2
340		BIPOLAR	VOLTAGE REGULATOR	3
3400		CMOS	EAPROM	1
34001		BIFET	OP AMP	1
34001		CMOS	GATE	1-2
3403		BIPOLAR	OP AMP	1
34049B		CMOS	BUFFER/INVERTER	1-2
344		BIPOLAR	OP AMP	2
348	11001	BIPOLAR	OP AMP	2
351		ECL	GATE	2
355	11401	BIFET	OP AMP	3
356	11402	BIFET	OP AMP	3
357		BIFET	OP AMP	3
3600		BIPOLAR	CONVERTER (D/A A/D)	3
3870		NMOS	MICROCOMPUTER	1
3873		NMOS	MICROCOMPUTER	1
398	12501	BIFET	LINEAR	2
4000		CMOS	GATE	1-2
4001		CMOS	GATE	1-2
4001A	05202	CMOS	GATE	1
4001B	05252	CMOS	GATE	2
40014		CMOS	SSI/MSI	2
4002B	05253	CMOS	GATE	1
4006		TTL	DECODER	3
4006B	05751	CMOS	SHIFT REGISTER	1
4007	05351	CMOS	BUFFER/INVERTER	1
4007B		CMOS	BUFFER/INVERTER	1

BASE PART NUMBER	MIL-M-38510	DEVICE	DESCRIPTION	CLASS
4008B	05451	CMOS	SSI/MSI	1
40101B		CMOS	SSI/MSI	1
4011		CMOS	GATE	1
4011A	05001	CMOS	GATE	2
4011B	05051	CMOS	GATE	1-2
4012	05002	CMOS	GATE	2
4012B	05052	CMOS	GATE	1
4013		CMOS	FLIP-FLOP	2
4013A	05101	CMOS	FLIP-FLOP	1-2
4013B	05151	CMOS	FLIP-FLOP	1
4014B	05752	CMOS	SHIFT REGISTER	1
4015B	05753	CMOS	SHIFT REGISTER	1
40160B	18001	CMOS	COUNTER	1
40161B	18002	CMOS	COUNTER	1
40161BC		CMOS	COUNTER	1
40162B	18003	CMOS	COUNTER	1
40163B	18004	CMOS	COUNTER	1
4017B	05651	CMOS	COUNTER	1
40174B	17505	CMOS	FLIP-FLOP	1
4018		CMOS	COUNTER	2
4019		CMOS	GATE	1-2
4019B	05352	CMOS	GATE	1
40194B	17906	CMOS	SHIFT REGISTER	1
40195B		CMOS	SHIFT REGISTER	1
4020		CMOS	COUNTER	2
4020B	05653	CMOS	COUNTER	1
4021		CMOS	SHIFT REGISTER	1
4021A	05704	CMOS	SHIFT REGISTER	2
4021B	05754	CMOS	SHIFT REGISTER	1
4023A	05003	CMOS	GATE	1
4023B	05053	CMOS	GATE	1
4023D		CMOS	GATE	1
4024		CMOS	COUNTER	1-2
4024B	05655	CMOS	COUNTER	1
4025B	05254	CMOS	GATE	1
4027B	05152	CMOS	FLIP-FLOP	2
4028B	05951	CMOS	DECODER	1
4029		CMOS	COUNTER	1
4029B	18X02	CMOS	COUNTER	1
4030B	05353	CMOS	GATE	1
4031B	05755	CMOS	SHIFT REGISTER	1
4033B		CMOS	COUNTER	1
4034B	05756	CMOS	SHIFT REGISTER	1
4035		CMOS	SHIFT REGISTER	1
4035B	18X01	CMOS	SHIFT REGISTER	1
4040		CMOS	COUNTER	1
4040B	1XX01	CMOS	COUNTER	1
4042B	18X02	CMOS	LATCH	1
4043		TTL	DRIVER	3
4043B	05153	CMOS	LATCH	1
4044	2XX02	CMOS	LATCH	1
4046B		CMOS	PHASE LOCK LOOP	1
4049	05553	CMOS	BUFFER/INVERTER	1
4049A	05503	CMOS	BUFFER/INVERTER	2
4049UB	05553	CMOS	BUFFER/INVERTER	1
4050		CMOS	BUFFER/INVERTER	1
4050B	05554	CMOS	BUFFER/INVERTER	1
4051B		CMOS	LINEAR MULTIPLEXER	1
4052B		CMOS	LINEAR MULTIPLEXER	1
4053		CMOS	SWITCH	1
4053B	1XX01	CMOS	SWITCH	1
4053B	1XX01	CMOS	SWITCH	2
4066		CMOS	SWITCH	3
4066B	05852	CMOS	SWITCH	1
4067B	17801	CMOS	LINEAR MULTIPLEXER	1
4068B		CMOS	GATE	1
4069	17401	CMOS	BUFFER/INVERTER	1
4069B		CMOS	BUFFER/INVERTER	1-2
4069UB	17401	CMOS	BUFFER/INVERTER	1
4070		CMOS	GATE	1
4071B	17101	CMOS	GATE	1
4073B	17003	CMOS	GATE	1
4076B	17501	CMOS	FLIP-FLOP	1

BASE PART NUMBER	MIL-M-38510	DEVICE	DESCRIPTION	CLASS
4077B	17204	CMOS	GATE	1
4081B	17001	CMOS	GATE	1
4082B	17002	CMOS	GATE	1
4085B	17201	CMOS	GATE	1
4086B	17202	CMOS	GATE	1
4093		CMOS	GATE	1-2
4093B	17701	CMOS	GATE	1
4099B	17601	CMOS	LATCH	1
4116	24001	NMOS	DYNAMIC RAM	1
4131		BIPOLAR	OP AMP	2
416		NMOS	DYNAMIC RAM	1
4502B	17403	CMOS	BUFFER/INVERTER	1
4503B		CMOS	BUFFER/INVERTER	1
4508B	17602	CMOS	LATCH	1
4511		CMOS	DECODER	1-2
4511B		CMOS	DECODER	1
4512B		CMOS	MULTIPLEXER	1
4514B	17301	CMOS	DECODER	1
4515B		CMOS	DECODER	1
4516B	18106	CMOS	COUNTER	1
4518B	18107	CMOS	COUNTER	1
4519B		CMOS	GATE	1
4520B	18108	CMOS	COUNTER	1
4528B	1XX01	CMOS	MULTIVIBRATOR	1
4539B		CMOS	MULTIPLEXER	1
4555B	17304	JFET	DECODER	1
4558		BIPOLAR	OP AMP	2
4581B		CMOS	SSI/MSI	1
4585B	1XX01	CMOS	COMPARATOR	1
4716		NMOS	DYNAMIC RAM	1
4724		CMOS	LATCH	1
506	19001	CMOS	LINEAR MULTIPLEXER	1
508	19007	CMOS	LINEAR MULTIPLEXER	1
520		MOS	CONSUMER	1
532	13X01	BIPOLAR	LINEAR	1-2
54H00	02304	HTTL	GATE	3
54H183		HTTL	SSI/MSI	3
54LS00	30001	LSTTL	GATE	1-2
54LS02	30301	LSTTL	GATE	1-2
54LS03	30002	LSTTL	GATE	1-2
54LS04	30003	LSTTL	BUFFER/INVERTER	1-2
54LS05	30004	LSTTL	BUFFER/INVERTER	2
54LS08	31004	LSTTL	GATE	1-2
54LS09	31005	LSTTL	GATE	1-2
54LS10	30005	LSTTL	GATE	1-2
54LS107	30108	LSTTL	FLIP-FLOP	1-2
54LS109	30109	LSTTL	FLIP-FLOP	1-2
54LS11	31001	LSTTL	GATE	1-2
54LS112	30103	LSTTL	FLIP-FLOP	1-2
54LS12	30006	LSTTL	GATE	1-2
54LS123	31401	LSTTL	MULTIVIBRATOR	1-2
54LS125	32301	LSTTL	BUFFER/INVERTER	1-2
54LS126	32302	LSTTL	BUFFER/INVERTER	1-2
54LS138	30701	LSTTL	DECODER	1-2
54LS139	30702	LSTTL	DECODER	1-2
54LS14	31302	LSTTL	SSI/MSI	1-2
54LS148	36001	LSTTL	ENCODER	1-2
54LS15	31002	LSTTL	GATE	1-2
54LS151	30901	LSTTL	MULTIPLEXER	1-2
54LS153	30902	LSTTL	MULTIPLEXER	1-2
54LS154		LSTTL	DECODER	1-2
54LS155	32601	LSTTL	DECODER	1-2
54LS157	30903	LSTTL	MULTIPLEXER	2
54LS160	31503	LSTTL	COUNTER	1-2
54LS161	31504	LSTTL	COUNTER	1-2
54LS162	31511	LSTTL	COUNTER	1-2
54LS163	31512	LSTTL	COUNTER	1-2
54LS164	30605	LSTTL	SHIFT REGISTER	1-2
54LS165	30608	LSTTL	SHIFT REGISTER	1-2
54LS166	30609	LSTTL	SHIFT REGISTER	1-2
54LS173		LSTTL	FLIP-FLOP	1-2
54LS174	30106	LSTTL	FLIP-FLOP	1-2
54LS175	30107	LSTTL	FLIP-FLOP	1-2

BASE PART NUMBER	MIL-M-38510	DEVICE	DESCRIPTION	CLASS
54LS181	30801	LSTTL	SSI/MSI	1-2
54LS192	31507	LSTTL	COUNTER	1-2
54LS193	31508	LSTTL	COUNTER	1-2
54LS194	30601	LSTTL	SHIFT REGISTER	1-2
54LS196	32001	LSTTL	COUNTER	1-2
54LS197	32002	LSTTL	COUNTER	1-2
54LS20	30007	LSTTL	GATE	1-2
54LS21	31003	LSTTL	GATE	1-2
54LS221	31402	LSTTL	MULTIVIBRATOR	1-2
54LS240	32401	LSTTL	DRIVER	1-2
54LS244	32403	LSTTL	DRIVER	1-2
54LS245	32803	LSTTL	TRANSCEIVER	1-2
54LS251	30905	LSTTL	MULTIPLEXER	1-2
54LS253	30908	LSTTL	MULTIPLEXER	1-2
54LS257	30906	LSTTL	MULTIPLEXER	1-2
54LS259	31603	LSTTL	LATCH	1-2
54LS266	30303	LSTTL	GATE	1-2
54LS27	30302	LSTTL	GATE	1-2
54LS279	31602	LSTTL	LATCH	1-2
54LS280	32901	LSTTL	SSI/MSI	1-2
54LS283	31202	LSTTL	SSI/MSI	1-2
54LS295		LSTTL	SHIFT REGISTER	1-2
54LS298	30909	LSTTL	MULTIPLEXER	1-2
54LS299	3XX01	LSTTL	SHIFT REGISTER	1-2
54LS30	30009	LSTTL	GATE	1-2
54LS32	30501	LSTTL	GATE	1-2
54LS353		LSTTL	MULTIPLEXER	1-2
54LS367	32203	LSTTL	BUFFER/INVERTER	1-2
54LS368	32204	LSTTL	BUFFER/INVERTER	1-2
54LS37	30302	LSTTL	GATE	1-2
54LS373	32502	LSTTL	LATCH	1-2
54LS374	32503	LSTTL	FLIP-FLOP	1-2
54LS38	30203	LSTTL	GATE	1-2
54LS390	32/01	LSTTL	COUNTER	1-2
54LS393	32702	LSTTL	COUNTER	1-2
54LS40	30201	LSTTL	GATE	1-2
54LS42	30703	LSTTL	ENCODER	1-2
54LS51	30401	LSTTL	GATE	1-2
54LS54	30402	LSTTL	GATE	1-2
54LS670	31901	LSTTL	SSI/MSI	1-2
54LS74	30102	LSTTL	FLIP-FLOP	1
54LS75	31601	LSTTL	LATCH	1-2
54LS85	31101	LSTTL	SSI/MSI	1-2
54LS86	30502	LSTTL	GATE	1-2
54LS90	31501	LSTTL	COUNTER	1
54LS92	31510	LSTTL	COUNTER	1-2
54L00	02004	LTTL	GATE	1
54L04	02005	LTTL	BUFFER/INVERTER	2
54L74	02105	LTTL	FLIP-FLOP	3
54S02	07301	STTL	GATE	1
54S03	07002	STTL	GATE	1
54S04	07003	STTL	BUFFER/INVERTER	1
54S05	07004	STTL	BUFFER/INVERTER	1
54S08	08003	STTL	GATE	1
54S10	07005	STTL	GATE	1
54S11	08001	STTL	GATE	1
54S112	0/102	STTL	FLIP-FLOP	1
54S135	07502	STTL	GATE	1
54S138	07701	STTL	DECODER	1
54S151	07901	STTL	MULTIPLEXER	1
54S153	07902	STTL	MULTIPLEXER	1
54S157	07903	STTL	MULTIPLEXER	1
54S160		STTL	COUNTER	1
54S161		STTL	COUNTER	1
54S174	07105	STTL	FLIP-FLOP	1
54S175	07106	STTL	FLIP-FLOP	1
54S181	07801	STTL	SSI/MSI	1
54S189		STTL	STATIC RAM	1
54S20	07006	STTL	GATE	1
54S200		STTL	RAM	1
54S22	07007	STTL	GATE	1
54S251	07905	STTL	MULTIPLEXER	1
54S257	07906	STTL	MULTIPLEXER	1

BASE PART NUMBER	MIL-M-38510	DEVICE	DESCRIPTION	CLASS
54S258	07907	STTL	MULTIPLEXER	1
54S287		STTL	PROM	1
54S288		STTL	PROM	1
54S30	07008	STTL	GATE	1
54S32		STTL	GATE	1
54S471		STTL	PROM	1
54S472		STTL	PROM	1
54S51	07401	STTL	GATE	1
54S573		STTL	PROM	1
54S74	07101	STTL	FLIP-FLOP	1
54S85	08201	STTL	SSI/MSI	1
54S86	07501	STTL	GATE	1
5400	00104	TTL	GATE	2
5404	00105	TTL	BUFFER/INVERTER	2
5406	00801	TTL	DRIVER	2
5407	00803	TTL	DRIVER	2
54120		TTL	DRIVER	2
54128		TTL	DRIVER	2
54153	01403	TTL	MULTIPLEXER	3
54154	15201	TTL	DECODER	2
54182	01102	TTL	SSI/MSI	1
5420	00102	TTL	GATE	2
5421		TTL	GATE	2
5425	00403	TTL	GATE	2
5437	00302	TTL	GATE	2
5438	00303	TTL	GATE	2
5445	01004	TTL	DECODER	2
5446	01006	TTL	DRIVER	2
5483	00602	TTL	SSI/MSI	3
55104	10401	BIPOLAR	RECEIVER	3
55109	13X01	BIPOLAR	DRIVER	3
55461	12907	TTL	DRIVER	2
55462	12908	TTL	DRIVER	2
55463	12909	TTL	DRIVER	2
55464	12910	TTL	DRIVER	2
555	10901	BIPOLAR	LINEAR	2
556	10902	BIPOLAR	LINEAR	2
5710		IL	COMPARATOR	3
6514	24502	CMOS	STATIC RAM	1-2
6518	23902	CMOS	RAM	1
6800	40001	NMOS	MICROPROCESSOR	1
6802	40X01	NMOS	MICROPROCESSOR	1
6821		NMOS	MICROPROCESSOR	1
6828		NMOS	MICROPROCESSOR	1
6844	40X01	NMOS	MICROPROCESSOR	1
6845	40X01	NMOS	MICROPROCESSOR	1
6850	40X01	NMOS	MICROPROCESSOR	1
6875	40X01	NMOS	MICROPROCESSOR	1
7040		NMOS	EPROM	2
709		BIPOLAR	OP AMP	2
710		BIPOLAR	COMPARATOR	1-2
715		BIPOLAR	OP AMP	3-N
723		BIPOLAR	VOLTAGE REGULATOR	1-2
72709		BIPOLAR	OP AMP	N
733		BIPOLAR	AMP	1-2
74F00	33001	ADVANCED S	GATE	1
74F04	33002	ADVANCED S	BUFFER/INVERTER	1
74F175	34104	ADVANCED S	FLIP-FLOP	1
74F20	33004	ADVANCED S	GATE	1
74H00	02304	HTTL	GATE	2
74H05		HTTL	BUFFER/INVERTER	N
74H106		HTTL	FLIP-FLOP	1
74LS00	30001	LSTTL	GATE	1
74LS02	30301	LSTTL	GATE	1-2
74LS03	30002	LSTTL	GATE	1-2
74LS05	30004	LSTTL	BUFFER/INVERTER	1-2
74LS08	31004	LSTTL	GATE	1-2
74LS09	31005	LSTTL	GATE	1-2
74LS10	30005	LSTTL	GATE	1-2
74LS107	30108	LSTTL	FLIP-FLOP	1-2
74LS109	30109	LSTTL	FLIP-FLOP	1-2
74LS11	31001	LSTTL	GATE	1-2
74LS112	30103	LSTTL	FLIP-FLOP	1-2

BASE PART NUMBER	MIL-M-38510	DEVICE	DESCRIPTION	CLASS
74LS12	30006	LSTTL	GATE	1-2
74LS125	32301	LSTTL	BUFFER/INVERTER	1-2
74LS126	32302	LSTTL	BUFFER/INVERTER	1-2
74LS138	30701	LSTTL	DECODER	1-2
74LS139	30702	LSTTL	DECODER	1-2
74LS14	31302	LSTTL	SSI/MSI	1-2
74LS148	36001	LSTTL	ENCODER	1-2
74LS15	31002	LSTTL	GATE	1-2
74LS151	30901	LSTTL	MULTIPLEXER	1-2
74LS153	30902	LSTTL	MULTIPLEXER	1-2
74LS154		LSTTL	DECODER	1-2
74LS155	32601	LSTTL	DECODER	1-2
74LS157	30903	LSTTL	MULTIPLEXER	1-2
74LS160	31503	LSTTL	COUNTER	1-2
74LS161	31504	LSTTL	COUNTER	1-2
74LS162	31511	LSTTL	COUNTER	1-2
74LS163	31512	LSTTL	COUNTER	1-2
74LS164	30605	LSTTL	SHIFT REGISTER	1-2
74LS165	30608	LSTTL	SHIFT REGISTER	1-2
74LS166	30609	LSTTL	SHIFT REGISTER	1-2
74LS173		LSTTL	FLIP-FLOP	1-2
74LS174	30106	LSTTL	FLIP-FLOP	1-2
74LS175	30107	LSTTL	FLIP-FLOP	2
74LS181	30801	LSTTL	SSI/MSI	1-2
74LS192	31507	LSTTL	COUNTER	1-2
74LS193	31508	LSTTL	COUNTER	1-2
74LS194	30601	LSTTL	SHIFT REGISTER	1-2
74LS196	32001	LSTTL	COUNTER	1-2
74LS197	32002	LSTTL	COUNTER	1-2
74LS20	30007	LSTTL	GATE	1-2
74LS21	31003	LSTTL	GATE	1-2
74LS221	31402	LSTTL	MULTIVIBRATOR	1-2
74LS240	32401	LSTTL	DRIVER	1-2
74LS244	32403	LSTTL	DRIVER	1-2
74LS245	32803	LSTTL	TRANSCEIVER	1-2
74LS251	30905	LSTTL	MULTIPLEXER	1-2
74LS253	30908	LSTTL	MULTIPLEXER	1-2
74LS257	30906	LSTTL	MULTIPLEXER	1-2
74LS259	31603	LSTTL	LATCH	1-2
74LS266	30303	LSTTL	GATE	1-2
74LS27	30302	LSTTL	GATE	1-2
74LS279	31602	LSTTL	LATCH	1-2
74LS280	32901	LSTTL	SSI/MSI	1-2
74LS283	31202	LSTTL	SSI/MSI	1-2
74LS295		LSTTL	SHIFT REGISTER	1-2
74LS298	30909	LSTTL	MULTIPLEXER	1-2
74LS299	3XX01	LSTTL	SHIFT REGISTER	1
74LS30	30009	LSTTL	GATE	1-2
74LS32	30501	LSTTL	GATE	1-2
74LS353		LSTTL	MULTIPLEXER	1-2
74LS367	32203	LSTTL	BUFFER/INVERTER	1-2
74LS368	32204	LSTTL	BUFFER/INVERTER	1-2
74LS37	30202	LSTTL	GATE	1-2
74LS373	32502	LSTTL	LATCH	1-2
74LS374	32503	LSTTL	FLIP-FLOP	1-2
74LS38	30203	LSTTL	GATE	1-2
74LS390	32701	LSTTL	COUNTER	1-2
74LS393	32702	LSTTL	COUNTER	1-2
74LS40	30201	LSTTL	GATE	1-2
74LS42	30703	LSTTL	ENCODER	1-2
74LS51	30401	LSTTL	GATE	1-2
74LS54	30402	LSTTL	GATE	1-2
74LS670	31901	LSTTL	SSI/MSI	1-2
74LS74	30102	LSTTL	FLIP-FLOP	1-2
74LS75	31601	LSTTL	LATCH	1-2
74LS86	30502	LSTTL	GATE	1-2
74LS92	31510	LSTTL	COUNTER	1-2
74L00	02004	LTTL	GATE	2-3
74L71	02101	LTTL	FLIP-FLOP	2-3
74L73	02103	LTTL	FLIP-FLOP	2
74L95	02801	LTTL	SHIFT REGISTER	2-3
74800	07001	STTL	GATE	1
74802	07301	STTL	GATE	1

BASE PART NUMBER	MIL-M-38510	DEVICE	DESCRIPTION	CLASS
74803	07002	STTL	GATE	1
74804	07003	STTL	BUFFER/INVERTER	1
74805	07804	STTL	BUFFER/INVERTER	1
74808	08003	STTL	GATE	1
74810	07005	STTL	GATE	1
74811	08001	STTL	GATE	1
748112	07102	STTL	FLIP-FLOP	1
748133	07009	STTL	GATE	1
748135	07502	STTL	GATE	1
748140	08101	STTL	GATE	1
748151	07901	STTL	MULTIPLEXER	1
748153	07902	STTL	MULTIPLEXER	1
748157	07903	STTL	MULTIPLEXER	1
748160		STTL	COUNTER	1
748161		STTL	COUNTER	1
748174	07105	STTL	FLIP-FLOP	1
748175	07106	STTL	FLIP-FLOP	1
748181	07801	STTL	SSI/MSI	1
748182	07802	STTL	SSI/MSI	1
748189		STTL	STATIC RAM	1
74820	07006	STTL	GATE	1
748200		STTL	RAM	1
74822	07007	STTL	GATE	1
748251	07905	STTL	MULTIPLEXER	1
748257	07906	STTL	MULTIPLEXER	1
748258	07907	STTL	MULTIPLEXER	1
74830	07008	STTL	GATE	1
74832		STTL	GATE	1
748472		STTL	PROM	1
74851	07401	STTL	GATE	1
74874	07101	STTL	FLIP-FLOP	1
74885	08201	STTL	SSI/MSI	1
74886	07501	STTL	GATE	1
740		BIFET	OP AMP	3
7400	00104	TTL	GATE	2
7402	00401	TTL	GATE	3
7404	00105	TTL	BUFFER/INVERTER	2
7406	00801	TTL	DRIVER	2
7407	00803	TTL	DRIVER	2
741	10101	BIPOLAR	OP AMP	1
74120		TTL	DRIVER	2
74128		TTL	DRIVER	2
7413	15101	TTL	SSI/MSI	3
74154	15201	TTL	DECODER	2
74163	01304	TTL	COUNTER	1
74173		TTL	FLIP-FLOP	2
74175	01702	TTL	FLIP-FLOP	2
74182	01102	TTL	SSI/MSI	2
7425	00403	TTL	GATE	2
7437	00302	TTL	GATE	2
7438	00303	TTL	GATE	2
7445	01004	TTL	DECODER	2
7446	01006	TTL	DRIVER	2
747		BIPOLAR	OP AMP	2
7490	01307	TTL	COUNTER	3
751885		LSTTL	SSI/MSI	1-2
75107		TTL	RECEIVER	3
7520		CMOS	CONVERTER (D/A A/D)	1
7521		CMOS	CONVERTER (D/A A/D)	1
7522		CMOS	CONVERTER (D/A A/D)	1
75461		TTL	DRIVER	2
75462		TTL	DRIVER	2
75463		TTL	DRIVER	2
75464		TTL	DRIVER	2
7552		MOS	STATIC RAM	2
76161	21002	STTL	PROM	2
7620	20401	STTL	PROM	3
776		BIPOLAR	OP AMP	2
78H05		BIPOLAR	VOLTAGE REGULATOR	3
78M05	10702	BIPOLAR	VOLTAGE REGULATOR	3
78M12	10703	BIPOLAR	VOLTAGE REGULATOR	3
78M15	10704	BIPOLAR	VOLTAGE REGULATOR	3
7805	10706	BIPOLAR	VOLTAGE REGULATOR	3

BASE PART NUMBER	MIL-M-38510	DEVICE	DESCRIPTION	CLASS
7812	10707	BIPOLAR	VOLTAGE REGULATOR	3
7815	10708	BIPOLAR	VOLTAGE REGULATOR	3
79M12	11502	BIPOLAR	VOLTAGE REGULATOR	3
79M15	11503	BIPOLAR	VOLTAGE REGULATOR	3
7905	11505	BIPOLAR	VOLTAGE REGULATOR	3
7912	11506	BIPOLAR	VOLTAGE REGULATOR	3
7915	11507	BIPOLAR	VOLTAGE REGULATOR	3
7924	11508	BIPOLAR	VOLTAGE REGULATOR	3
8T26		STTL	TRANSCIVER	1
8T26C		STTL	TRANSCIVER	1
8X01		LSI	LSI	1
8039		NMOS	MICROCOMPUTER	1
8048	49001	NMOS	MICROCOMPUTER	1
8080		NMOS	MICROPROCESSOR	1
8085	4XX01	NMOS	MICROPROCESSOR	1
8155		NMOS	STATIC RAM	1
82S114		STTL	PROM	1
82S123	20702	STTL	PROM	1
82S129	20302	STTL	PROM	1
82S131	20402	STTL	PROM	1
82S137	20602	STTL	PROM	1
82S141	20802	STTL	PROM	1
82S181	20904	STTL	PROM	1
82S185	20902	STTL	PROM	1
82S191	21002	STTL	PROM	1
82S2708	20905	STTL	PROM	1
82S34		STTL	MULTIPLEXER	2
82S67		STTL	MULTIPLEXER	3
82288		STTL	ROM	1-2
8253	42X01	NMOS	LSI	1-2
84S133	07009	STTL	GATE	1
8481		DTL	GATE	1
8755		NMOS	EPROM	1
8820		BIPOLAR	RECEIVER	2
9093	03304	DTL	FLIP-FLOP	3
9102		NMOS	STATIC RAM	1-2
914		RTL	GATE	3
930	03001	DTL	GATE	2-3
933	03105	DTL	SSI/MSI	3
93415	23101	DTL	STATIC RAM	1
93449		DTL	SSI/MSI	3
94459		DTL	GATE	3
946	03004	DTL	GATE	1
948	03302	DTL	FLIP-FLOP	3
9614	10403	BIPOLAR	DRIVER	2
9615	10404	BIPOLAR	RECEIVER	1-2
9616		BIPOLAR	DRIVER	3
9900		LSI	MICROPROCESSOR	1
9908		DTL	SSI/MSI	3
9909		RTL	GATE	3
9910		RTL	GATE	3
9911		RTL	GATE	3
9912		RTL	SSI/MSI	3
9930		DTL	GATE	2
9932		DTL	GATE	2
9944		DTL	GATE	2
9945		DTL	FLIP-FLOP	2
9946		DTL	GATE	3
9948		DTL	FLIP-FLOP	2-3

SECTION 3B

MICROCIRCUITS IN MILITARY PART NUMBER ORDER

MIL-M-38510	BASE PART NUMBER	DEVICE	DESCRIPTION	CLASS
00102	5420	TTL	GATE	2
00104	5400	TTL	GATE	2
00104	7400	TTL	GATE	2
00105	5404	TTL	BUFFER/INVERTER	2
00105	7404	TTL	BUFFER/INVERTER	2
00302	5437	TTL	GATE	2
00302	7437	TTL	GATE	2
00303	5438	TTL	GATE	2
00303	7438	TTL	GATE	2
00401	7402	TTL	GATE	3
00403	5425	TTL	GATE	2
00403	7425	TTL	GATE	2
00602	5483	TTL	SSI/MSI	3
00801	5406	TTL	DRIVER	2
00801	7406	TTL	DRIVER	2
00803	5407	TTL	DRIVER	2
00803	7407	TTL	DRIVER	2
01004	5445	TTL	DECODER	2
01004	7445	TTL	DECODER	2
01006	5446	TTL	DRIVER	2
01006	7446	TTL	DRIVER	2
01102	54182	TTL	SSI/MSI	1
01102	74182	TTL	SSI/MSI	2
01304	74163	TTL	COUNTER	1
01307	7490	TTL	COUNTER	3
01403	54153	TTL	MULTIPLEXER	3
01702	74175	TTL	FLIP-FLOP	2
02004	54L00	LTTL	GATE	1
02004	74L00	LTTL	GATE	2-3
02005	54L04	LTTL	BUFFER/INVERTER	2
02101	74L71	LTTL	FLIP-FLOP	2-3
02103	74L73	LTTL	FLIP-FLOP	2
02105	54L74	LTTL	FLIP-FLOP	3
02304	74H00	HTTL	GATE	2
02304	54H00	HTTL	GATE	3
02801	74L95	LTTL	SHIFT REGISTER	2-3
03001	930	DTL	GATE	2-3
03004	946	DTL	GATE	1
03105	933	DTL	SSI/MSI	3
03302	948	DTL	FLIP-FLOP	3
03304	9093	DTL	FLIP-FLOP	3
05001	4011A	CMOS	GATE	2
05002	4012	CMOS	GATE	2
05003	4023A	CMOS	GATE	1
05051	4011B	CMOS	GATE	1-2
05052	4012B	CMOS	GATE	1
05053	4023B	CMOS	GATE	1
05101	14013A	CMOS	FLIP-FLOP	2
05101	4013A	CMOS	FLIP-FLOP	1-2
05151	14013B	CMOS	FLIP-FLOP	2
05151	4013B	CMOS	FLIP-FLOP	1
05152	4027B	CMOS	FLIP-FLOP	2
05153	4043B	CMOS	LATCH	1
05202	14001A	CMOS	GATE	1
05202	4001A	CMOS	GATE	1
05252	14001B	CMOS	GATE	2
05252	4001B	CMOS	GATE	2
05253	4002B	CMOS	GATE	1
05254	4025B	CMOS	GATE	1
05351	4007	CMOS	BUFFER/INVERTER	1
05352	4019B	CMOS	GATE	1
05353	4030B	CMOS	GATE	1
05451	4008B	CMOS	SSI/MSI	1
05503	14049A	CMOS	BUFFER/INVERTER	1
05503	4049A	CMOS	BUFFER/INVERTER	2
05553	4049	CMOS	BUFFER/INVERTER	1
05553	4049UB	CMOS	BUFFER/INVERTER	1
05554	4050B	CMOS	BUFFER/INVERTER	1
05651	4017B	CMOS	COUNTER	1
05653	4020B	CMOS	COUNTER	1
05655	4024B	CMOS	COUNTER	1
05704	4021A	CMOS	SHIFT REGISTER	2
05751	4006B	CMOS	SHIFT REGISTER	1

MIL-M-38510	BASE PART NUMBER	DEVICE	DESCRIPTION	CLASS
05752	4014B	CMOS	SHIFT REGISTER	1
05753	4015B	CMOS	SHIFT REGISTER	1
05754	4021B	CMOS	SHIFT REGISTER	1
05755	4031B	CMOS	SHIFT REGISTER	1
05756	4034B	CMOS	SHIFT REGISTER	1
05852	4066B	CMOS	SHIFT REGISTER	1
05951	4028B	CMOS	SWITCH	1
06001	10501	CMOS	DECODER	1
07001	74S00	NCL	GATE	2
07002	54S03	STTL	GATE	1
07002	74S03	STTL	GATE	1
07003	54S04	STTL	GATE	1
07003	74S04	STTL	BUFFER/INVERTER	1
07004	54S05	STTL	BUFFER/INVERTER	1
07004	74S05	STTL	BUFFER/INVERTER	1
07005	54S10	STTL	BUFFER/INVERTER	1
07005	74S10	STTL	GATE	1
07006	54S20	STTL	GATE	1
07006	74S20	STTL	GATE	1
07007	54S22	STTL	GATE	1
07007	74S22	STTL	GATE	1
07008	54S30	STTL	GATE	1
07008	74S30	STTL	GATE	1
07009	84S133	STTL	GATE	1
07009	74S133	STTL	GATE	1
07101	54S74	STTL	GATE	1
07101	74S74	STTL	FLIP-FLOP	1
07102	54S112	STTL	FLIP-FLOP	1
07102	74S112	STTL	FLIP-FLOP	1
07105	54S174	STTL	FLIP-FLOP	1
07105	74S174	STTL	FLIP-FLOP	1
07106	54S175	STTL	FLIP-FLOP	1
07106	74S175	STTL	FLIP-FLOP	1
07301	54S02	STTL	FLIP-FLOP	1
07301	74S02	STTL	GATE	1
07401	54S51	STTL	GATE	1
07401	74S51	STTL	GATE	1
07501	54S86	STTL	GATE	1
07501	74S86	STTL	GATE	1
07502	54S135	STTL	GATE	1
07502	74S135	STTL	GATE	1
07701	54S138	STTL	GATE	1
07801	54S181	STTL	DECODER	1
07801	74S181	STTL	SSI/MSI	1
07802	74S182	STTL	SSI/MSI	1
07901	54S151	STTL	SSI/MSI	1
07901	74S151	STTL	MULTIPLEXER	1
07902	54S153	STTL	MULTIPLEXER	1
07902	74S153	STTL	MULTIPLEXER	1
07903	54S157	STTL	MULTIPLEXER	1
07903	74S157	STTL	MULTIPLEXER	1
07905	54S251	STTL	MULTIPLEXER	1
07905	74S251	STTL	MULTIPLEXER	1
07906	54S257	STTL	MULTIPLEXER	1
07906	74S257	STTL	MULTIPLEXER	1
07907	54S258	STTL	MULTIPLEXER	1
07907	74S258	STTL	MULTIPLEXER	1
08001	54S11	STTL	MULTIPLEXER	1
08001	74S11	STTL	GATE	1
08003	54S08	STTL	GATE	1
08003	74S08	STTL	GATE	1
08101	74S140	STTL	GATE	1
08201	54S85	STTL	GATE	1
08201	74S85	STTL	SSI/MSI	1
1XX01	4040B	CMOS	SSI/MSI	1
1XX01	4053B	CMOS	COUNTER	1
1XX01	4053B	CMOS	SWITCH	1
1XX01	4528B	CMOS	SWITCH	2
1XX01	4585B	CMOS	MULTIVIBRATOR	1
1XX02	14053B	CMOS	COMPARATOR	1
10101	741	BIPOLAR	SWITCH	1-2
10103	101A	BIPOLAR	OP AMP	1
10107	118	BIPOLAR	OP AMP	1-2
				3

MIL-M-38510	BASE PART NUMBER	DEVICE	DESCRIPTION	CLASS
10108	1558	BIPOLAR	OP AMP	2
10304	111	BIPOLAR	COMPARATOR	1
10401	55104	BIPOLAR	RECEIVER	3
10403	9614	BIPOLAR	DRIVER	2
10404	9615	BIPOLAR	RECEIVER	1-2
10701	109	BIPOLAR	VOLTAGE REGULATOR	3
10702	78M05	BIPOLAR	VOLTAGE REGULATOR	3
10703	78M12	BIPOLAR	VOLTAGE REGULATOR	3
10704	78M15	BIPOLAR	VOLTAGE REGULATOR	3
10706	140	BIPOLAR	VOLTAGE REGULATOR	3
10706	7805	BIPOLAR	VOLTAGE REGULATOR	3
10707	7812	BIPOLAR	VOLTAGE REGULATOR	3
10708	7815	BIPOLAR	VOLTAGE REGULATOR	3
10901	555	BIPOLAR	LINEAR	2
10902	556	BIPOLAR	LINEAR	2
11001	348	BIPOLAR	OP AMP	2
11001	148	BIPOLAR	OP AMP	2
11005	124	BIPOLAR	OP AMP	2
11201	339	BIPOLAR	COMPARATOR	2
11201	139	BIPOLAR	COMPARATOR	2
11401	355	BIFET	OP AMP	3
11401	155	BIFET	OP AMP	3
11402	356	BIFET	OP AMP	3
11402	156	BIFET	OP AMP	2
11403	157	BIFET	OP AMP	3
11502	79M12	BIPOLAR	VOLTAGE REGULATOR	3
11503	79M15	BIPOLAR	VOLTAGE REGULATOR	3
11505	7905	BIPOLAR	VOLTAGE REGULATOR	3
11506	7912	BIPOLAR	VOLTAGE REGULATOR	3
11507	7915	BIPOLAR	VOLTAGE REGULATOR	3
11508	7924	BIPOLAR	VOLTAGE REGULATOR	3
12302	201	CMOS	SWITCH	1-2
12304	201	CMOS	SWITCH	2
12501	398	BIFET	LINEAR	2
12501	198	BIFET	LINEAR	2
12907	55461	TTL	DRIVER	2
12908	55462	TTL	DRIVER	2
12909	55463	TTL	DRIVER	2
12910	55464	TTL	DRIVER	2
13X01	532	BIPOLAR	LINEAR	1-2
13X01	55109	BIPOLAR	DRIVER	3
14X01	103	BIPOLAR	VOLTAGE REGULATOR	3
14X01	26LS31	LSTTL	DRIVER	1-2
14X02	26LS32	LSTTL	RECEIVER	1-2
15101	7413	TTL	SSI/MSI	3
15201	54154	TTL	DECODER	2
15201	74154	TTL	DECODER	2
17001	4081B	CMOS	GATE	1
17002	4082B	CMOS	GATE	1
17003	4073B	CMOS	GATE	1
17101	4071B	CMOS	GATE	1
17201	4085B	CMOS	GATE	1
17202	4086B	CMOS	GATE	1
17204	4077B	CMOS	GATE	1
17301	4514B	CMOS	DECODER	1
17304	4555B	JFET	DECODER	1
17401	4069	CMOS	BUFFER/INVERTER	1
17401	4069UB	CMOS	BUFFER/INVERTER	1
17403	4502B	CMOS	BUFFER/INVERTER	1
17501	4076B	CMOS	FLIP-FLOP	1
17505	40174B	CMOS	FLIP-FLOP	1
17601	4099B	CMOS	LATCH	1
17602	4508B	CMOS	LATCH	1
17701	4093B	CMOS	GATE	1
17801	4067B	CMOS	LINEAR MULTIPLEXER	1
17906	40194B	CMOS	SHIFT REGISTER	1
18X01	4035B	CMOS	SHIFT REGISTER	1
18X02	4029B	CMOS	COUNTER	1
18X02	4042B	CMOS	LATCH	1
18001	40160B	CMOS	COUNTER	1
18002	40161B	CMOS	COUNTER	1
18003	40162B	CMOS	COUNTER	1
18004	40163B	CMOS	COUNTER	1

MIL-M-38510	BASE PART NUMBER	DEVICE	DESCRIPTION	CLASS
18106	4516B	CMOS	COUNTER	1
18107	4518B	CMOS	COUNTER	1
18108	4520B	CMOS	COUNTER	1
19001	506	CMOS	LINEAR MULTIPLEXER	1
19007	508	CMOS	LINEAR MULTIPLEXER	1
2XX01	2401	NMOS	ROM	1
2XX02	4044	CMOS	LATCH	1
2XX03	2141	NMOS	STATIC RAM	1
20302	82S129	STTL	PROM	1
20401	7620	STTL	PROM	3
20402	82S131	STTL	PROM	1
20602	82S137	STTL	PROM	1
20702	82S123	STTL	PROM	1
20802	82S141	STTL	PROM	1
20902	82S185	STTL	PROM	1
20904	82S181	STTL	PROM	1
20905	82S2708	STTL	PROM	1
21002	76161	STTL	PROM	2
21002	82S191	STTL	PROM	1
22001	2708	NMOS	EPROM	1
22101	2516	NMOS	EPROM	1
22101	2716	NMOS	EPROM	1
22202	2732	NMOS	EPROM	1
23101	93415	TTL	STATIC RAM	1
23801	2147	MOS	STATIC RAM	1
23802	2114	MOS	STATIC RAM	1
23902	6518	CMOS	RAM	1
24001	4116	NMOS	DYNAMIC RAM	1
24502	6514	CMOS	STATIC RAM	1-2
3XX01	54LS299	LSTTL	SHIFT REGISTER	1-2
3XX01	74LS299	LSTTL	SHIFT REGISTER	1
30001	54LS00	LSTTL	GATE	1-2
30001	74LS00	LSTTL	GATE	1
30002	54LS03	LSTTL	GATE	1-2
30002	74LS03	LSTTL	GATE	1-2
30003	54LS04	LSTTL	BUFFER/INVERTER	1-2
30004	54LS05	LSTTL	BUFFER/INVERTER	2
30004	74LS05	LSTTL	BUFFER/INVERTER	1-2
30005	54LS10	LSTTL	GATE	1-2
30005	74LS10	LSTTL	GATE	1-2
30006	54LS12	LSTTL	GATE	1-2
30006	74LS12	LSTTL	GATE	1-2
30007	54LS20	LSTTL	GATE	1-2
30007	74LS20	LSTTL	GATE	1-2
30009	54LS30	LSTTL	GATE	1-2
30009	74LS30	LSTTL	GATE	1-2
30102	54LS74	LSTTL	FLIP-FLOP	1
30102	74LS74	LSTTL	FLIP-FLOP	1-2
30103	54LS112	LSTTL	FLIP-FLOP	1-2
30103	74LS112	LSTTL	FLIP-FLOP	1-2
30106	54LS174	LSTTL	FLIP-FLOP	1-2
30106	74LS174	LSTTL	FLIP-FLOP	1-2
30107	74LS175	LSTTL	FLIP-FLOP	2
30107	54LS175	LSTTL	FLIP-FLOP	1-2
30108	54LS107	LSTTL	FLIP-FLOP	1-2
30108	74LS107	LSTTL	FLIP-FLOP	1-2
30109	54LS109	LSTTL	FLIP-FLOP	1-2
30109	74LS109	LSTTL	FLIP-FLOP	1-2
30201	54LS40	LSTTL	GATE	1-2
30201	74LS40	LSTTL	GATE	1-2
30202	74LS37	LSTTL	GATE	1-2
30203	54LS38	LSTTL	GATE	1-2
30203	74LS38	LSTTL	GATE	1-2
30301	54LS02	LSTTL	GATE	1-2
30301	74LS02	LSTTL	GATE	1-2
30302	54LS27	LSTTL	GATE	1-2
30302	74LS27	LSTTL	GATE	1-2
30302	54LS37	LSTTL	GATE	1-2
30302	74LS37	LSTTL	GATE	1-2
30303	54LS266	LSTTL	GATE	1-2
30303	74LS266	LSTTL	GATE	1-2
30401	54LS51	LSTTL	GATE	1-2
30401	74LS51	LSTTL	GATE	1-2
30402	54LS54	LSTTL	GATE	1-2

MIL-M-38510	BASE PART NUMBER	DEVICE	DESCRIPTION	CLASS
30402	74LS54	LSTTL	GATE	1-2
30501	54LS32	LSTTL	GATE	1-2
30501	74LS32	LSTTL	GATE	1-2
30502	54LS86	LSTTL	GATE	1-2
30502	74LS86	LSTTL	GATE	1-2
30601	54LS194	LSTTL	SHIFT REGISTER	1-2
30601	74LS194	LSTTL	SHIFT REGISTER	1-2
30605	54LS164	LSTTL	SHIFT REGISTER	1-2
30605	74LS164	LSTTL	SHIFT REGISTER	1-2
30608	54LS165	LSTTL	SHIFT REGISTER	1-2
30608	74LS165	LSTTL	SHIFT REGISTER	1-2
30609	54LS166	LSTTL	SHIFT REGISTER	1-2
30609	74LS166	LSTTL	SHIFT REGISTER	1-2
30701	54LS138	LSTTL	DECODER	1-2
30701	74LS138	LSTTL	DECODER	1-2
30702	54LS139	LSTTL	DECODER	1-2
30702	74LS139	LSTTL	DECODER	1-2
30703	54LS42	LSTTL	ENCODER	1-2
30703	74LS42	LSTTL	ENCODER	1-2
30801	54LS181	LSTTL	SSI/MSI	1-2
30801	74LS181	LSTTL	SSI/MSI	1-2
30901	54LS151	LSTTL	MULTIPLEXER	1-2
30901	74LS151	LSTTL	MULTIPLEXER	1-2
30902	54LS153	LSTTL	MULTIPLEXER	1-2
30902	74LS153	LSTTL	MULTIPLEXER	1-2
30903	54LS157	LSTTL	MULTIPLEXER	2
30903	74LS157	LSTTL	MULTIPLEXER	1-2
30905	54LS251	LSTTL	MULTIPLEXER	1-2
30905	74LS251	LSTTL	MULTIPLEXER	1-2
30906	54LS257	LSTTL	MULTIPLEXER	1-2
30906	74LS257	LSTTL	MULTIPLEXER	1-2
30908	54LS253	LSTTL	MULTIPLEXER	1-2
30908	74LS253	LSTTL	MULTIPLEXER	1-2
30909	54LS298	LSTTL	MULTIPLEXER	1-2
30909	74LS298	LSTTL	MULTIPLEXER	1-2
31001	54LS11	LSTTL	GATE	1-2
31001	74LS11	LSTTL	GATE	1-2
31002	54LS15	LSTTL	GATE	1-2
31002	74LS15	LSTTL	GATE	1-2
31003	54LS21	LSTTL	GATE	1-2
31003	74LS21	LSTTL	GATE	1-2
31004	54LS08	LSTTL	GATE	1-2
31004	74LS08	LSTTL	GATE	1-2
31005	54LS09	LSTTL	GATE	1-2
31005	74LS09	LSTTL	GATE	1-2
31101	54LS85	LSTTL	SSI/MSI	1-2
31202	54LS283	LSTTL	SSI/MSI	1-2
31202	74LS283	LSTTL	SSI/MSI	1-2
31302	54LS14	LSTTL	SSI/MSI	1-2
31302	74LS14	LSTTL	SSI/MSI	1-2
31401	54LS123	LSTTL	MULTIVIBRATOR	1-2
31402	54LS221	LSTTL	MULTIVIBRATOR	1-2
31402	74LS221	LSTTL	MULTIVIBRATOR	1-2
31501	54LS90	LSTTL	COUNTER	1
31503	54LS160	LSTTL	COUNTER	1-2
31503	74LS160	LSTTL	COUNTER	1-2
31504	54LS161	LSTTL	COUNTER	1-2
31504	74LS161	LSTTL	COUNTER	1-2
31507	54LS192	LSTTL	COUNTER	1-2
31507	74LS192	LSTTL	COUNTER	1-2
31508	54LS193	LSTTL	COUNTER	1-2
31508	74LS193	LSTTL	COUNTER	1-2
31510	54LS92	LSTTL	COUNTER	1-2
31510	74LS92	LSTTL	COUNTER	1-2
31511	54LS162	LSTTL	COUNTER	1-2
31511	74LS162	LSTTL	COUNTER	1-2
31512	54LS163	LSTTL	COUNTER	1-2
31512	74LS163	LSTTL	COUNTER	1-2
31601	54LS75	LSTTL	LATCH	1-2
31601	74LS75	LSTTL	LATCH	1-2
31602	54LS279	LSTTL	LATCH	1-2
31602	74LS279	LSTTL	LATCH	1-2
31603	54LS259	LSTTL	LATCH	1-2

MIL-H-38510	BASE PART NUMBER	DEVICE	DESCRIPTION	CLASS
31603	74LS259	LSTTL	LATCH	1-2
31901	54LS670	LSTTL	SSI/MSI	1-2
31901	74LS670	LSTTL	SSI/MSI	1-2
32001	54LS196	LSTTL	COUNTER	1-2
32001	74LS196	LSTTL	COUNTER	1-2
32002	54LS197	LSTTL	COUNTER	1-2
32002	74LS197	LSTTL	COUNTER	1-2
32203	54LS367	LSTTL	BUFFER/INVERTER	1-2
32203	74LS367	LSTTL	BUFFER/INVERTER	1-2
32204	54LS368	LSTTL	BUFFER/INVERTER	1-2
32204	74LS368	LSTTL	BUFFER/INVERTER	1-2
32301	54LS125	LSTTL	BUFFER/INVERTER	1-2
32301	74LS125	LSTTL	BUFFER/INVERTER	1-2
32302	54LS126	LSTTL	BUFFER/INVERTER	1-2
32302	74LS126	LSTTL	BUFFER/INVERTER	1-2
32401	54LS240	LSTTL	DRIVER	1-2
32401	74LS240	LSTTL	DRIVER	1-2
32403	54LS244	LSTTL	DRIVER	1-2
32403	74LS244	LSTTL	DRIVER	1-2
32502	54LS373	LSTTL	LATCH	1-2
32502	74LS373	LSTTL	LATCH	1-2
32503	54LS374	LSTTL	FLIP-FLOP	1-2
32503	74LS374	LSTTL	FLIP-FLOP	1-2
32601	54LS155	LSTTL	DECODER	1-2
32601	74LS155	LSTTL	DECODER	1-2
32701	54LS390	LSTTL	COUNTER	1-2
32701	74LS390	LSTTL	COUNTER	1-2
32702	54LS393	LSTTL	COUNTER	1-2
32702	74LS393	LSTTL	COUNTER	1-2
32803	54LS245	LSTTL	TRANSCIVER	1-2
32803	74LS245	LSTTL	TRANSCIVER	1-2
32901	54LS280	LSTTL	SSI/MSI	1-2
32901	74LS280	LSTTL	SSI/MSI	1-2
33001	74F00	ADVANCED S	GATE	1
33002	74F04	ADVANCED S	BUFFER/INVERTER	1
33004	74F20	ADVANCED S	GATE	1
34104	74F175	ADVANCED S	FLIP-FLOP	1
36001	54LS148	LSTTL	ENCODER	1-2
36001	74LS148	LSTTL	ENCODER	1-2
4XX01	8085	NMOS	MICROPROCESSOR	1
40X01	6802	NMOS	MICROPROCESSOR	1
40X01	6844	NMOS	MICROPROCESSOR	1
40X01	6845	NMOS	MICROPROCESSOR	1
40X01	6850	NMOS	MICROPROCESSOR	1
40X01	6875	NMOS	MICROPROCESSOR	1
40001	6800	NMOS	MICROPROCESSOR	1
42X01	8253	NMOS	LSI	1-2
44501	2910	TTL	MICROPROCESSOR	1-2
47102	1822	CMOS	RAM	2
47301	1852	CMOS	SSI/MSI	1
49001	8048	NMOS	MICROCOMPUTER	1

SECTION 3C

DISCRETE COMPONENTS IN GENERIC PART NUMBER ORDER

REWORKING PAGE BLANK-OUT FILLED

BASE PART NUMBER	MIL-S-19500	DEVICE DESCRIPTION	CLASS
FD777P		SWITCHING DIODE	1-2
FLV104		LIGHT EMITTING DIODE	3
FLV152		LIGHT EMITTING DIODE	3
IRL60		INFRARED EMITTING DIODE	2-3
LNA351		VOLTAGE REFERENCE DIODE	N
LVA356		VOLTAGE REFERENCE DIODE	N
LVA51A		VOLTAGE REFERENCE DIODE	N
LVA91A		VOLTAGE REFERENCE DIODE	N
MCT2		PHOTOTRANSISTOR OUTPUT	3
ME60		INFRARED EMITTING DIODE	2-3
MLED900		INFRARED EMITTING DIODE	3
MR501		POWER RECTIFIER	3
MV-108		LIGHT EMITTING DIODE	3
RNC55H		METAL FILM	3-N
RNC55H3322		FILM RESISTOR	2
RNC55H68		FILM RESISTOR	N
RN50H1692		FILM RESISTOR	2
RN50H4532		FILM RESISTOR	2
SD241		SCHOTTKY POWER RECTIFIER	2-3
SKA4504		TRANSISTORS	2
SKA6516		TRANSISTORS	2
SM692-1		PNP LOW POWER TRANSISTOR	4
TI551		SWITCHING DIODE	2
0181A00361		METAL FILM	2
0181A00362		METAL FILM	2
0181A00371		METAL FILM	2
0181A00373		METAL FILM	2-3
1N1095		POWER RECTIFIER	3
1N1124A	104	POWER RECTIFIER	N
1N1126A	104	POWER RECTIFIER	N
1N1202A	260	POWER RECTIFIER	N
1N1202A		POWER RECTIFIER	N
1N1204A	260	POWER RECTIFIER	N
1N1206		POWER RECTIFIER	N
1N1614	162	POWER RECTIFIER	N
1N1615	162	POWER RECTIFIER	N
1N1733A	142	HIGH VOLTAGE RECTIFIER	N
1N21B		MICROWAVE DIODES	1-2
1N21C		MICROWAVE DIODES	2
1N21F		MICROWAVE DIODES	2
1N21WE	232	MICROWAVE DIODES	2
1N2158		RECTIFIER	N
1N23B		MICROWAVE DIODES	1-2
1N23D		MICROWAVE DIODES	1-2
1N23E		MICROWAVE DIODES	2
1N23F		MICROWAVE DIODES	1
1N23G		MICROWAVE DIODES	1
1N23RE		MICROWAVE DIODES	1
1N23WE	322	POINT CONTACT DIODE	1
1N25	234	MICROWAVE DIODES	3
1N25A		MICROWAVE DIODES	2
1N251	188	SWITCHING DIODE	2
1N253	194	POWER RECTIFIER	N
1N2701		RECTIFIER	2
1N277	201	GERMANIUM DIODE	2
1N2804B	114	VOLTAGE REGULATOR DIODE	N
1N2813B	114	VOLTAGE REGULATOR DIODE	N
1N2816B	114	VOLTAGE REGULATOR DIODE	N
1N2929A		TUNNEL DIODE	3
1N2970B	124	VOLTAGE REGULATOR DIODE	N
1N2984B	124	VOLTAGE REGULATOR DIODE	N
1N2985B	124	VOLTAGE REGULATOR DIODE	N
1N2985RB	124	VOLTAGE REGULATOR DIODE	N
1N2988B	124	VOLTAGE REGULATOR DIODE	N
1N2989B	124	VOLTAGE REGULATOR DIODE	N
1N2991B	124	VOLTAGE REGULATOR DIODE	N
1N3015B	124	VOLTAGE REGULATOR DIODE	N
1N3017B	115	VOLTAGE REGULATOR DIODE	N
1N3019B	115	VOLTAGE REGULATOR DIODE	N
1N3022B	115	VOLTAGE REGULATOR DIODE	N
1N3025B	115	VOLTAGE REGULATOR DIODE	N
1N3031B	115	VOLTAGE REGULATOR DIODE	N
1N3035B	115	VOLTAGE REGULATOR DIODE	N

BASE PART NUMBER	MIL-S-19500	DEVICE DESCRIPTION	CLASS
1N3037B	115	VOLTAGE REGULATOR DIODE	N
1N3040B	115	VOLTAGE REGULATOR DIODE	N
1N3047B	115	VOLTAGE REGULATOR DIODE	N
1N3064	144	SWITCHING DIODE	3
1N3064	144	SWITCHING DIODE	N
1N3155	158	VOLTAGE REFERENCE DIODE	N
1N3157	158	VOLTAGE REFERENCE DIODE	N
1N3189	155	POWER RECTIFIER	N
1N3191	155	POWER RECTIFIER	N
1N3323B	358	VOLTAGE REGULATOR DIODE	N
1N34A		GERMANIUM DIODE	2
1N3595	241	SWITCHING DIODE	2-3
1N3600	231	SWITCHING DIODE	2
1N3821A	115	VOLTAGE REGULATOR DIODE	N
1N3828A	115	VOLTAGE REGULATOR DIODE	N
1N3910	308	FAST RECOVERY RECTIFIER	3
1N4003		POWER RECTIFIER	N
1N4004		POWER RECTIFIER	3
1N4005		POWER RECTIFIER	2
1N4006		POWER RECTIFIER	3
1N4099	435	VOLTAGE REGULATOR DIODE	3
1N4100	435	VOLTAGE REGULATOR DIODE	3
1N4101	435	VOLTAGE REGULATOR DIODE	3
1N4103	435	VOLTAGE REGULATOR DIODE	3
1N4112	435	VOLTAGE REGULATOR DIODE	3
1N4114	435	VOLTAGE REGULATOR DIODE	3
1N4116	435	VOLTAGE REGULATOR DIODE	3
1N4120	435	VOLTAGE REGULATOR DIODE	3
1N4121	435	VOLTAGE REGULATOR DIODE	3
1N4123	435	VOLTAGE REGULATOR DIODE	3
1N4124	435	VOLTAGE REGULATOR DIODE	3
1N4125	435	VOLTAGE REGULATOR DIODE	3
1N4126	435	VOLTAGE REGULATOR DIODE	3
1N4127	435	VOLTAGE REGULATOR DIODE	3
1N4129	435	VOLTAGE REGULATOR DIODE	3
1N4130	435	VOLTAGE REGULATOR DIODE	3
1N4131	435	VOLTAGE REGULATOR DIODE	3
1N4132	435	VOLTAGE REGULATOR DIODE	3
1N4134	435	VOLTAGE REGULATOR DIODE	3
1N4148	116	SWITCHING DIODE	1-2
1N4148-1	116	SWITCHING DIODE	2-3
1N4150	231	SWITCHING DIODE	2
1N4150-1	231	SWITCHING DIODE	2-3
1N4151		SWITCHING DIODE	N
1N4152		SWITCHING DIODE	2-3
1N4153-1	337	SWITCHING DIODE	2
1N4154		SWITCHING DIODE	2
1N4166		MICROWAVE DIODES	2
1N4244		SWITCHING DIODE	1-2
1N429	299	VOLTAGE REGULATOR DIODE	N
1N4370		VOLTAGE REFERENCE DIODE	N
1N4385	365	POWER RECTIFIER	N
1N4450		SWITCHING DIODE	3
1N4454	144	SWITCHING DIODE	2
1N4465	406	VOLTAGE REGULATOR DIODE	N
1N4467	406	VOLTAGE REGULATOR DIODE	N
1N4469	406	VOLTAGE REGULATOR DIODE	N
1N4471	406	VOLTAGE REGULATOR DIODE	N
1N4474	406	VOLTAGE REGULATOR DIODE	N
1N4476	406	VOLTAGE REGULATOR DIODE	N
1N456A-1	127	VOLTAGE REGULATOR DIODE	N
1N4561	114	VOLTAGE REGULATOR DIODE	3
1N457	193	RECTIFIER	3
1N459	193	RECTIFIER	3-N
1N459A		GENERAL PURPOSE DIODE	N
1N4614	435	VOLTAGE REGULATOR DIODE	3
1N4624	435	VOLTAGE REGULATOR DIODE	N
1N4625	435	VOLTAGE REGULATOR DIODE	N
1N4626	435	VOLTAGE REGULATOR DIODE	N
1N4627	435	VOLTAGE REGULATOR DIODE	N
1N4679		VOLTAGE REGULATOR DIODE	N
1N4683		VOLTAGE REGULATOR DIODE	3
1N4686		VOLTAGE REGULATOR DIODE	N

BASE PART NUMBER	MIL-S-19500	DEVICE DESCRIPTION	CLASS
1N4689		VOLTAGE REGULATOR DIODE	N
1N4691		VOLTAGE REGULATOR DIODE	N
1N4693		VOLTAGE REGULATOR DIODE	N
1N4696		VOLTAGE REGULATOR DIODE	N
1N4697		VOLTAGE REGULATOR DIODE	N
1N4727		SWITCHING DIODE	3
1N482A		GENERAL PURPOSE DIODE	N
1N4821		RECTIFIER	3
1N483B	118	SWITCHING DIODE	N
1N484A		GENERAL PURPOSE DIODE	3
1N486		GENERAL PURPOSE DIODE	3
1N486B	118	SWITCHING DIODE	2
1N4905A		VOLTAGE REFERENCE DIODE	3
1N4937		SWITCHING DIODE	3
1N4938	169	SWITCHING DIODE	3
1N4942	359	FAST RECOVERY RECTIFIER	N
1N4944	359	FAST RECOVERY RECTIFIER	N
1N4946	359	FAST RECOVERY RECTIFIER	N
1N4948	359	FAST RECOVERY RECTIFIER	N
1N4954	356	VOLTAGE REGULATOR DIODE	N
1N4955	356	VOLTAGE REGULATOR DIODE	N
1N4956	356	VOLTAGE REGULATOR DIODE	N
1N4957	356	VOLTAGE REGULATOR DIODE	N
1N4958	356	VOLTAGE REGULATOR DIODE	N
1N4960	356	VOLTAGE REGULATOR DIODE	N
1N4962	356	VOLTAGE REGULATOR DIODE	N
1N4964	356	VOLTAGE REGULATOR DIODE	N
1N4967	356	VOLTAGE REGULATOR DIODE	N
1N4969	356	VOLTAGE REGULATOR DIODE	N
1N4971	356	VOLTAGE REGULATOR DIODE	N
1N4972	356	VOLTAGE REGULATOR DIODE	N
1N4974	356	VOLTAGE REGULATOR DIODE	N
1N4976	356	VOLTAGE REGULATOR DIODE	N
1N4979	356	VOLTAGE REGULATOR DIODE	N
1N5139A	383	VARIABLE CAPACITANCE DIODE (VARACTOR)	2
1N5140A	383	VARIABLE CAPACITANCE DIODE (VARACTOR)	3
1N5144A	383	VARIABLE CAPACITANCE DIODE (VARACTOR)	3
1N5148A	383	VARIABLE CAPACITANCE DIODE (VARACTOR)	N
1N5187	424	FAST RECOVERY RECTIFIER	N
1N5188	424	FAST RECOVERY RECTIFIER	N
1N5190	424	FAST RECOVERY RECTIFIER	N
1N5233		ZENER DIODE	N
1N5285	463	CURRENT REGULATOR DIODE	1-2
1N5287	463	CURRENT REGULATOR DIODE	N
1N5291	463	CURRENT REGULATOR DIODE	N
1N5356		ZENER DIODE	N
1N537		RECTIFIER	N
1N5378		ZENER DIODE	N
1N538B		GENERAL PURPOSE DIODE	N
1N5391		RECTIFIER	3-N
1N540	202	LOW POWER RECTIFIER	3
1N541B		SWITCHING DIODE	N
1N5416	411	FAST RECOVERY RECTIFIER	N
1N5417	411	FAST RECOVERY RECTIFIER	3
1N5418	411	FAST RECOVERY RECTIFIER	N
1N5420	411	FAST RECOVERY RECTIFIER	3
1N5463B	436	VARIABLE CAPACITANCE DIODE (VARACTOR)	3
1N5467B	436	VARIABLE CAPACITANCE DIODE (VARACTOR)	3
1N547	202	LOW POWER RECTIFIER	N
1N5476B	436	VARIABLE CAPACITANCE DIODE (VARACTOR)	N
1N5523B	437	VOLTAGE REGULATOR DIODE	3
1N553		RECTIFIER	N
1N5550	420	POWER RECTIFIER	N
1N5552	420	POWER RECTIFIER	3
1N5554	420	POWER RECTIFIER	N
1N5555	434	TRANSIENT SUPPRESSOR DIODE	N
1N5556	434	TRANSIENT SUPPRESSOR DIODE	N
1N5558	434	TRANSIENT SUPPRESSOR DIODE	N
1N5614	427	POWER RECTIFIER	N
1N5615	429	FAST RECOVERY RECTIFIER	3
1N5616	427	POWER RECTIFIER	3
1N5617	429	FAST RECOVERY RECTIFIER	N
1N5618	427	POWER RECTIFIER	N

BASE PART NUMBER	MIL-S-19500	DEVICE DESCRIPTION	CLASS
1N5619	429	FAST RECOVERY RECTIFIER	N
1N5622	427	POWER RECTIFIER	3-N
1N5623	429	FAST RECOVERY RECTIFIER	N
1N5711	444	SCHOTTKY BARRIER (HOT CARRIER) DIODE	1
1N5712	445	SWITCHING DIODE	1-2
1N64		GENERAL PURPOSE DIODE	2-3
1N643A		SWITCHING DIODE	2
1N645	240	LOW POWER RECTIFIER	3
1N645-1	240	LOW POWER RECTIFIER	2
1N646		LOW POWER RECTIFIER	N
1N647	240	LOW POWER RECTIFIER	N
1N647-1	240	LOW POWER RECTIFIER	2
1N6471	552	TRANSIENT SUPPRESSOR DIODE	N
1N649	240	LOW POWER RECTIFIER	3
1N658	257	SWITCHING DIODE	N
1N6601		SWITCHING DIODE	3
1N661	285	SWITCHING DIODE	3
1N6621		SWITCHING DIODE	3
1N702A		ZENER DIODE	N
1N711A		ZENER DIODE	N
1N746A	127	VOLTAGE REGULATOR DIODE	N
1N750A	127	VOLTAGE REGULATOR DIODE	N
1N751A	127	VOLTAGE REGULATOR DIODE	N
1N752A	127	VOLTAGE REGULATOR DIODE	N
1N753A	127	VOLTAGE REGULATOR DIODE	N
1N753A-1	127	VOLTAGE REGULATOR DIODE	N
1N754A	127	VOLTAGE REGULATOR DIODE	N
1N754A-1	127	VOLTAGE REGULATOR DIODE	N
1N755A	127	VOLTAGE REGULATOR DIODE	N
1N755A-1	127	VOLTAGE REGULATOR DIODE	N
1N756		VOLTAGE REGULATOR DIODE	N
1N756A	127	VOLTAGE REGULATOR DIODE	N
1N757A	127	VOLTAGE REGULATOR DIODE	N
1N757A-1	127	VOLTAGE REGULATOR DIODE	N
1N758A	127	VOLTAGE REGULATOR DIODE	N
1N758A-1	127	VOLTAGE REGULATOR DIODE	N
1N759A	127	VOLTAGE REGULATOR DIODE	N
1N759A-1	127	VOLTAGE REGULATOR DIODE	N
1N763-2		ZENER DIODE	N
1N78B		MICROWAVE DIODES	1
1N78CR	130	MICROWAVE DIODES	3
1N78D		MICROWAVE DIODES	1-2
1N781		MICROWAVE DIODES	1
1N816	199	VOLTAGE REGULATOR DIODE	N
1N82A		POINT CONTACT DIODE	1
1N82A1		POINT CONTACT DIODE	1-2
1N821	159	VOLTAGE REFERENCE DIODE	N
1N823	159	VOLTAGE REFERENCE DIODE	N
1N827	159	VOLTAGE REFERENCE DIODE	N
1N829	159	VOLTAGE REFERENCE DIODE	3
1N914	116	SWITCHING DIODE	3
1N916		SWITCHING DIODE	N
1N933J		GENERAL PURPOSE DIODE	3
1N938B	156	VOLTAGE REFERENCE DIODE	3
1N941B	157	VOLTAGE REFERENCE DIODE	3
1N943B	157	VOLTAGE REFERENCE DIODE	N
1N944B	157	VOLTAGE REFERENCE DIODE	N
1N945B	157	VOLTAGE REFERENCE DIODE	N
1N956B		VARIABLE CAPACITANCE DIODE (VARACTOR)	N
1N963B	117	VOLTAGE REGULATOR DIODE	N
1N964B	117	VOLTAGE REGULATOR DIODE	N
1N965B	117	VOLTAGE REGULATOR DIODE	N
1N965B-1	117	VOLTAGE REGULATOR DIODE	N
1N967		VOLTAGE REGULATOR DIODE	N
1N967B-1	117	VOLTAGE REGULATOR DIODE	N
1N968B	117	VOLTAGE REGULATOR DIODE	3
1N970B	117	VOLTAGE REGULATOR DIODE	N
1N972B	117	VOLTAGE REGULATOR DIODE	N
1N973B	117	VOLTAGE REGULATOR DIODE	N
1N974B	117	VOLTAGE REGULATOR DIODE	N
1N981B	117	VOLTAGE REGULATOR DIODE	N
2N1016B	102	NPN HIGH POWER TRANSISTOR	N
2N1039	089	PNP LOW POWER TRANSISTOR, GERMANIUM	N

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2N1099		PNP HIGH POWER TRANSISTOR, GERMANIUM	N
2N1115		PNP LOW POWER TRANSISTOR, GERMANIUM	N
2N1116A		NPN LOW POWER TRANSISTOR	N
2N1118	138	PNP LOW POWER TRANSISTOR	3
2N1132	177	PNP LOW POWER TRANSISTOR	3
2N1132A		PNP LOW POWER TRANSISTOR	3
2N1204		PNP LOW POWER TRANSISTOR, GERMANIUM	2
2N1308	126	NPN LOW POWER TRANSISTOR, GERMANIUM	2
2N1469	078	PNP LOW POWER TRANSISTOR, GERMANIUM	N
2N1485	180	NPN LOW POWER TRANSISTOR	N
2N1486	180	NPN LOW POWER TRANSISTOR	N
2N1596		TRIODE, POWER, REVERSE BLOCKING (SCR)	N
2N1602		TRIODE, POWER, REVERSE BLOCKING (SCR)	N
2N1613	181	NPN LOW POWER TRANSISTOR	N
2N1642		MISCELLANEOUS TRANSISTORS	3
2N1711	225	NPN LOW POWER TRANSISTOR	3
2N176		PNP HIGH POWER TRANSISTOR, GERMANIUM	N
2N1774A	168	TRIODE, POWER, REVERSE BLOCKING (SCR)	3
2N1777A	168	TRIODE, POWER, REVERSE BLOCKING (SCR)	N
2N1893	182	NPN LOW POWER TRANSISTOR	N
2N190		PNP LOW POWER TRANSISTOR, GERMANIUM	N
2N2060	270	DIFFERENTIAL AMPLIFIER-NPN	3
2N2102		NPN HIGH POWER TRANSISTOR	N
2N2151	277	NPN HIGH POWER TRANSISTOR	N
2N2198		NPN LOW POWER TRANSISTOR	N
2N2219A	251	NPN LOW POWER TRANSISTOR	3
2N2222	255	NPN LOW POWER TRANSISTOR	3
2N2222A	255	NPN LOW POWER TRANSISTOR	3
2N2297		NPN LOW POWER TRANSISTOR	N
2N2323	276	TRIODE, POWER, REVERSE BLOCKING (SCR)	3-N
2N2346		TRIODE, POWER, REVERSE BLOCKING (SCR)	N
2N2369A	317	NPN LOW POWER TRANSISTOR	2
2N2405		NPN HIGH POWER TRANSISTOR	3
2N2432	313	NPN CHOPPER TRANSISTOR-DUAL EMITTER	3
2N2432A	313	NPN CHOPPER TRANSISTOR-DUAL EMITTER	2
2N2453		NPN LOW POWER TRANSISTOR	3
2N2481	268	NPN LOW POWER TRANSISTOR	2-3
2N2483		NPN LOW POWER TRANSISTOR	3
2N2484	376	NPN LOW POWER TRANSISTOR	3
2N2540		NPN LOW POWER TRANSISTOR	3
2N2608	295	JFET P-CHANNEL	2
2N2609	296	JFET P-CHANNEL	2
2N2708	302	NPN LOW POWER TRANSISTOR	2
2N2801		PNP LOW POWER TRANSISTOR	3
2N2857	343	NPN RF TRANSISTOR	2
2N2894		PNP LOW POWER TRANSISTOR	3
2N2904A	290	PNP LOW POWER TRANSISTOR	3
2N2905	290	PNP LOW POWER TRANSISTOR	3
2N2905A	290	PNP LOW POWER TRANSISTOR	3
2N2906	291	PNP LOW POWER TRANSISTOR	3
2N2907		PNP LOW POWER TRANSISTOR	3
2N2907A	291	PNP LOW POWER TRANSISTOR	3
2N2920	355	DIFFERENTIAL AMPLIFIER-NPN	3
2N2945		PNP LOW POWER TRANSISTOR	2
2N2946A	382	PNP CHOPPER TRANSISTOR	3
2N297A	036	PNP HIGH POWER TRANSISTOR, GERMANIUM	N
2N3019	391	NPN LOW POWER TRANSISTOR	3
2N3030	419	TRIODE, POWER, REVERSE BLOCKING (SCR)	3
2N3055	407	NPN HIGH POWER TRANSISTOR	N
2N3057		NPN LOW POWER TRANSISTOR	3
2N3112		JFET P-CHANNEL	2
2N3114		NPN LOW POWER TRANSISTOR	3
2N3117		NPN LOW POWER TRANSISTOR	3
2N3250A	323	PNP LOW POWER TRANSISTOR	3
2N3251		PNP LOW POWER TRANSISTOR	3
2N3251A	323	PNP LOW POWER TRANSISTOR	2
2N3253	347	NPN HIGH POWER TRANSISTOR	3
2N329		PNP LOW POWER TRANSISTOR	3
2N335	037	NPN LOW POWER TRANSISTOR	N
2N336	037	NPN LOW POWER TRANSISTOR	N
2N336A	037	NPN LOW POWER TRANSISTOR	N
2N3375	341	NPN RF TRANSISTOR	N
2N338	069	PNP LOW POWER TRANSISTOR, GERMANIUM	3

BASE PART NUMBER	MIL-S-19500	DEVICE DESCRIPTION	CLASS
2N343	016	NPN LOW POWER TRANSISTOR	3
2N3439	368	NPN LOW POWER TRANSISTOR	3
2N3440	368	NPN LOW POWER TRANSISTOR	3
2N3468	348	PNP LOW POWER TRANSISTOR	N
2N3486A	392	PNP LOW POWER TRANSISTOR	3
2N3498	366	NPN LOW POWER TRANSISTOR	3
2N3500	366	NPN LOW POWER TRANSISTOR	3
2N3501	366	NPN LOW POWER TRANSISTOR	3
2N3503		PNP LOW POWER TRANSISTOR	3-N
2N3507	349	NPN LOW POWER TRANSISTOR	N
2N3553	341	NPN RF TRANSISTOR	N
2N3570		NPN LOW POWER TRANSISTOR	2
2N3584	384	NPN HIGH POWER TRANSISTOR	N
2N3585	384	NPN HIGH POWER TRANSISTOR	N
2N3631		MOSFET (IGFET) N-CHANNEL	1
2N3635	357	PNP LOW POWER TRANSISTOR	3
2N3636	357	PNP LOW POWER TRANSISTOR	N
2N3637	357	PNP LOW POWER TRANSISTOR	3
2N3677		PNP LOW POWER TRANSISTOR	3
2N3700	391	NPN LOW POWER TRANSISTOR	3-N
2N3715	408	NPN HIGH POWER TRANSISTOR	N
2N3716	408	NPN HIGH POWER TRANSISTOR	N
2N3735	395	NPN LOW POWER TRANSISTOR	3
2N3737	395	NPN LOW POWER TRANSISTOR	3
2N3739	402	NPN HIGH POWER TRANSISTOR	N
2N3741	441	PNP HIGH POWER TRANSISTOR	N
2N375		PNP HIGH POWER TRANSISTOR, GERMANIUM	N
2N3763	396	PNP LOW POWER TRANSISTOR	3
2N3765	396	PNP LOW POWER TRANSISTOR	3
2N3772	413	NPN HIGH POWER TRANSISTOR	N
2N3791	379	PNP HIGH POWER TRANSISTOR	N
2N3799		PNP LOW POWER TRANSISTOR	3
2N3810	336	COMPLEMENTARY PNP TRANSISTOR	3
2N3811	336	COMPLEMENTARY PNP TRANSISTOR	3
2N3821	375	MOSFET (IGFET) N-CHANNEL	2-3
2N3822	375	MOSFET (IGFET) N-CHANNEL	3
2N3823	375	MOSFET (IGFET) N-CHANNEL	2
2N3866	398	NPN RF TRANSISTOR	N
2N3866A	398	NPN RF TRANSISTOR	3
2N3868	350	PNP LOW POWER TRANSISTOR	N
2N389	173	NPN HIGH POWER TRANSISTOR	N
2N3902	371	NPN HIGH POWER TRANSISTOR	N
2N3960	399	NPN LOW POWER TRANSISTOR	2
2N3964		PNP LOW POWER TRANSISTOR	3
2N3971		JFET N-CHANNEL	1
2N3997	374	NPN HIGH POWER TRANSISTOR	2-3
2N4033	512	PNP LOW POWER TRANSISTOR	3-N
2N4036		PNP HIGH POWER TRANSISTOR	3
2N4118A		JFET N-CHANNEL	1
2N4134		NPN LOW POWER TRANSISTOR	2
2N4150	394	NPN LOW POWER TRANSISTOR	2
2N4251		NPN LOW POWER TRANSISTOR	2
2N4303		JFET N-CHANNEL	2
2N4393		JFET N-CHANNEL	N
2N4405	448	PNP LOW POWER TRANSISTOR	3
2N4416		MOSFET (IGFET) N-CHANNEL	1
2N4416A	428	MOSFET (IGFET) N-CHANNEL	3
2N463	070	PNP HIGH POWER TRANSISTOR, GERMANIUM	N
2N4856	385	MOSFET (IGFET) N-CHANNEL	3
2N4858	385	MOSFET (IGFET) N-CHANNEL	3
2N4872		PNP LOW POWER TRANSISTOR	3
2N491		UNIUNCTION TRANSISTOR	N
2N4931	397	PNP LOW POWER TRANSISTOR	3
2N4948	388	UNIUNCTION TRANSISTOR	2
2N495A		PNP LOW POWER TRANSISTOR	1
2N4957	426	PNP LOW POWER TRANSISTOR	2
2N498	074	PNP LOW POWER TRANSISTOR, GERMANIUM	N
2N5036		NPN LOW POWER TRANSISTOR	3
2N5038	439	NPN HIGH POWER TRANSISTOR	N
2N5109	453	NPN RF TRANSISTOR	3
2N5114	476	JFET P-CHANNEL	3
2N5154	544	NPN LOW POWER TRANSISTOR	N
2N5157	371	NPN HIGH POWER TRANSISTOR	N

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2N5241	414	NPN HIGH POWER TRANSISTOR	3
2N5245		JFET N-CHANNEL	2
2N526	060	PNP LOW POWER TRANSISTOR, GERMANIUM	N
2N5302	456	NPN HIGH POWER TRANSISTOR	N
2N5415	485	PNP LOW POWER TRANSISTOR	N
2N5416	485	PNP LOW POWER TRANSISTOR	3
2N5524		JFET N-CHANNEL	2-3
2N5663	454	NPN HIGH POWER TRANSISTOR	N
2N5682		NPN HIGH POWER TRANSISTOR	3
2N5745	433	PNP HIGH POWER TRANSISTOR	N
2N576A		NPN LOW POWER TRANSISTOR, GERMANIUM	3
2N598	197	PNP LOW POWER TRANSISTOR, GERMANIUM	N
2N6052	501	PNP DARLINGTON TRANSISTOR	N
2N6059	502	NPN DARLINGTON TRANSISTOR	N
2N618		PNP HIGH POWER TRANSISTOR, GERMANIUM	N
2N6212	461	PNP HIGH POWER TRANSISTOR	3-N
2N656	074	PNP LOW POWER TRANSISTOR, GERMANIUM	3
2N657	074	PNP LOW POWER TRANSISTOR, GERMANIUM	N
2N657A		NPN HIGH POWER TRANSISTOR	N
2N685	108	TRIODE, POWER, REVERSE BLOCKING (SCR)	N
2N687	108	TRIODE, POWER, REVERSE BLOCKING (SCR)	N
2N697	099	NPN LOW POWER TRANSISTOR	3
2N699		NPN LOW POWER TRANSISTOR	3
2N706	120	NPN LOW POWER TRANSISTOR	2
2N708	312	NPN LOW POWER TRANSISTOR	2-3
2N718A	181	NPN LOW POWER TRANSISTOR	3
2N736		NPN LOW POWER TRANSISTOR	3
2N760		NPN LOW POWER TRANSISTOR	3
2N834		NPN LOW POWER TRANSISTOR	2
2N859		PNP LOW POWER TRANSISTOR	3
2N869A	283	PNP LOW POWER TRANSISTOR	3
2N886A		TRIODE, POWER, REVERSE BLOCKING (SCR)	2
2N916	271	NPN LOW POWER TRANSISTOR	3
2N918	301	NPN RF TRANSISTOR	2
2N927		PNP LOW POWER TRANSISTOR	3
2N930	253	NPN LOW POWER TRANSISTOR	3
2N930A		NPN LOW POWER TRANSISTOR	2-3
2N956		NPN LOW POWER TRANSISTOR	3
3N128		MOSFET (IGFET) N-CHANNEL	1
3N170		MOSFET (IGFET) N-CHANNEL	1
5082-4885		LIGHT EMITTING DIODE	3
899-1-R		THIN FILM	2

SECTION 3D

DISCRETE COMPONENTS IN MILITARY PART NUMBER ORDER

MIL-S-19500	BASE PART NUMBER	DEVICE DESCRIPTION	CLASS
016	2N343	NPN LOW POWER TRANSISTOR	J
036	2N297A	PNP HIGH POWER TRANSISTOR, GERMANIUM	N
037	2N335	NPN LOW POWER TRANSISTOR	N
037	2N336	NPN LOW POWER TRANSISTOR	N
037	2N336A	NPN LOW POWER TRANSISTOR	N
060	2N526	PNP LOW POWER TRANSISTOR, GERMANIUM	N
069	2N338	PNP LOW POWER TRANSISTOR, GERMANIUM	3
070	2N463	PNP HIGH POWER TRANSISTOR, GERMANIUM	N
074	2N498	PNP LOW POWER TRANSISTOR, GERMANIUM	N
074	2N656	PNP LOW POWER TRANSISTOR, GERMANIUM	3
074	2N657	PNP LOW POWER TRANSISTOR, GERMANIUM	N
078	2N1469	PNP LOW POWER TRANSISTOR, GERMANIUM	N
089	2N1039	PNP LOW POWER TRANSISTOR, GERMANIUM	N
099	2N697	NPN LOW POWER TRANSISTOR	3
102	2N1016B	NPN HIGH POWER TRANSISTOR	N
104	1N1124A	POWER RECTIFIER	N
104	1N1126A	POWER RECTIFIER	N
108	2N685	TRIODE, POWER, REVERSE BLOCKING (SCR)	N
108	2N687	TRIODE, POWER, REVERSE BLOCKING (SCR)	N
114	1N2804B	VOLTAGE REGULATOR DIODE	N
114	1N2813B	VOLTAGE REGULATOR DIODE	N
114	1N2816B	VOLTAGE REGULATOR DIODE	N
114	1N4561	VOLTAGE REGULATOR DIODE	3
115	1N3025B	VOLTAGE REGULATOR DIODE	N
115	1N3017B	VOLTAGE REGULATOR DIODE	N
115	1N3019B	VOLTAGE REGULATOR DIODE	N
115	1N3022B	VOLTAGE REGULATOR DIODE	N
115	1N3031B	VOLTAGE REGULATOR DIODE	N
115	1N3035B	VOLTAGE REGULATOR DIODE	N
115	1N3037B	VOLTAGE REGULATOR DIODE	N
115	1N3040B	VOLTAGE REGULATOR DIODE	N
115	1N3047B	VOLTAGE REGULATOR DIODE	N
115	1N3821A	VOLTAGE REGULATOR DIODE	N
115	1N3828A	VOLTAGE REGULATOR DIODE	N
116	1N4148	SWITCHING DIODE	1-2
116	1N4148-1	SWITCHING DIODE	2-3
116	1N914	SWITCHING DIODE	J
117	1N963B	VOLTAGE REGULATOR DIODE	N
117	1N964B	VOLTAGE REGULATOR DIODE	N
117	1N965B	VOLTAGE REGULATOR DIODE	N
117	1N965B-1	VOLTAGE REGULATOR DIODE	N
117	1N967B-1	VOLTAGE REGULATOR DIODE	N
117	1N968B	VOLTAGE REGULATOR DIODE	3
117	1N970B	VOLTAGE REGULATOR DIODE	N
117	1N972B	VOLTAGE REGULATOR DIODE	N
117	1N973B	VOLTAGE REGULATOR DIODE	N
117	1N974B	VOLTAGE REGULATOR DIODE	N
117	1N981B	VOLTAGE REGULATOR DIODE	N
118	1N483B	SWITCHING DIODE	N
118	1N486B	SWITCHING DIODE	2
120	2N106	NPN LOW POWER TRANSISTOR	2
124	1N2989B	VOLTAGE REGULATOR DIODE	N
124	1N2970B	VOLTAGE REGULATOR DIODE	N
124	1N2984B	VOLTAGE REGULATOR DIODE	N
124	1N2985B	VOLTAGE REGULATOR DIODE	N
124	1N2985RB	VOLTAGE REGULATOR DIODE	N
124	1N2988B	VOLTAGE REGULATOR DIODE	N
124	1N2991B	VOLTAGE REGULATOR DIODE	N
124	1N3015B	VOLTAGE REGULATOR DIODE	N
126	2N1308	NPN LOW POWER TRANSISTOR, GERMANIUM	2
127	1N746A	VOLTAGE REGULATOR DIODE	N
127	1N750A	VOLTAGE REGULATOR DIODE	N
127	1N751A	VOLTAGE REGULATOR DIODE	N
127	1N752A	VOLTAGE REGULATOR DIODE	N
127	1N753A	VOLTAGE REGULATOR DIODE	N
127	1N753A-1	VOLTAGE REGULATOR DIODE	N
127	1N754A	VOLTAGE REGULATOR DIODE	N
127	1N754A-1	VOLTAGE REGULATOR DIODE	N
127	1N755A	VOLTAGE REGULATOR DIODE	N
127	1N755A-1	VOLTAGE REGULATOR DIODE	N
127	1N756A	VOLTAGE REGULATOR DIODE	N
127	1N456A-1	VOLTAGE REGULATOR DIODE	N
127	1N757A	VOLTAGE REGULATOR DIODE	N

MIL-S-19500	BASE PART NUMBER	DEVICE DESCRIPTION	CLASS
127	1N757A-1	VOLTAGE REGULATOR DIODE	N
127	1N758A	VOLTAGE REGULATOR DIODE	N
127	1N758A-1	VOLTAGE REGULATOR DIODE	N
127	1N759A	VOLTAGE REGULATOR DIODE	N
127	1N759A-1	VOLTAGE REGULATOR DIODE	N
130	1N78CR	MICROWAVE DIODES	3
138	2N1118	PNP LOW POWER TRANSISTOR	3
142	1N1733A	HIGH VOLTAGE RECTIFIER	N
144	1N3064	SWITCHING DIODE	3
144	1N3064	SWITCHING DIODE	N
144	1N4454	SWITCHING DIODE	2
155	1N3189	POWER RECTIFIER	N
155	1N3191	POWER RECTIFIER	N
156	1N938B	VOLTAGE REFERENCE DIODE	3
157	1N941B	VOLTAGE REFERENCE DIODE	3
157	1N943B	VOLTAGE REFERENCE DIODE	N
157	1N944B	VOLTAGE REFERENCE DIODE	N
157	1N945B	VOLTAGE REFERENCE DIODE	N
158	1N3155	VOLTAGE REFERENCE DIODE	N
158	1N3157	VOLTAGE REFERENCE DIODE	N
159	1N821	VOLTAGE REFERENCE DIODE	N
159	1N823	VOLTAGE REFERENCE DIODE	N
159	1N827	VOLTAGE REFERENCE DIODE	N
159	1N829	VOLTAGE REFERENCE DIODE	3
162	1N1614	POWER RECTIFIER	N
162	1N1615	POWER RECTIFIER	N
168	2N1774A	TRIODE, POWER, REVERSE BLOCKING (SCR)	3
168	2N1777A	TRIODE, POWER, REVERSE BLOCKING (SCR)	N
169	1N4938	SWITCHING DIODE	3
173	2N389	NPN HIGH POWER TRANSISTOR	N
177	2N1132	PNP LOW POWER TRANSISTOR	3
180	2N1485	NPN LOW POWER TRANSISTOR	N
180	2N1486	NPN LOW POWER TRANSISTOR	N
181	2N1613	NPN LOW POWER TRANSISTOR	N
181	2N718A	NPN LOW POWER TRANSISTOR	3
182	2N1893	NPN LOW POWER TRANSISTOR	N
188	1N251	SWITCHING DIODE	2
193	1N457	RECTIFIER	3
193	1N459	RECTIFIER	3-N
194	1N253	POWER RECTIFIER	N
197	2N598	PNP LOW POWER TRANSISTOR, GERMANIUM	N
199	1N816	VOLTAGE REGULATOR DIODE	N
201	1N277	GERMANIUM DIODE	2
202	1N540	LOW POWER RECTIFIER	3
202	1N547	LOW POWER RECTIFIER	N
225	2N1711	NPN LOW POWER TRANSISTOR	3
231	1N3600	SWITCHING DIODE	2
231	1N4150	SWITCHING DIODE	2
231	1N4150-1	SWITCHING DIODE	2-3
232	1N21WE	MICROWAVE DIODES	2
234	1N25	MICROWAVE DIODES	3
240	1N645	LOW POWER RECTIFIER	3
240	1N645-1	LOW POWER RECTIFIER	2
240	1N647	LOW POWER RECTIFIER	N
240	1N647-1	LOW POWER RECTIFIER	2
240	1N649	LOW POWER RECTIFIER	3
241	1N3595	SWITCHING DIODE	2-3
251	2N2219A	NPN LOW POWER TRANSISTOR	3
253	2N930	NPN LOW POWER TRANSISTOR	3
255	2N2222	NPN LOW POWER TRANSISTOR	3
255	2N2222A	NPN LOW POWER TRANSISTOR	3
257	1N658	SWITCHING DIODE	N
260	1N1202A	POWER RECTIFIER	N
260	1N1204A	POWER RECTIFIER	N
268	2N2481	NPN LOW POWER TRANSISTOR	2-3
270	2N2060	DIFFERENTIAL AMPLIFIER-NPN	3
271	2N916	NPN LOW POWER TRANSISTOR	3
276	2N2323	TRIODE, POWER, REVERSE BLOCKING (SCR)	3-N
277	2N2151	NPN HIGH POWER TRANSISTOR	N
283	2N869A	PNP LOW POWER TRANSISTOR	3
285	1N661	SWITCHING DIODE	3
290	2N2904A	PNP LOW POWER TRANSISTOR	3
290	2N2905	PNP LOW POWER TRANSISTOR	3

MIL-S-19500	BASE PART NUMBER	DEVICE DESCRIPTION	CLASS
290	2N2905A	PNP LOW POWER TRANSISTOR	3
291	2N2906	PNP LOW POWER TRANSISTOR	3
291	2N2907A	PNP LOW POWER TRANSISTOR	3
295	2N2608	JFET P-CHANNEL	2
296	2N2609	JFET P-CHANNEL	2
299	1N429	VOLTAGE REGULATOR DIODE	N
301	2N918	NPN RF TRANSISTOR	2
302	2N2708	NPN LOW POWER TRANSISTOR	2
308	1N3910	FAST RECOVERY RECTIFIER	3
312	2N708	NPN LOW POWER TRANSISTOR	2-3
313	2N2432	NPN CHOPPER TRANSISTOR-DUAL EMITTER	3
313	2N2432A	NPN CHOPPER TRANSISTOR-DUAL EMITTER	2
317	2N2369A	NPN LOW POWER TRANSISTOR	2
322	1N23WE	POINT CONTACT DIODE	1
323	2N3250A	PNP LOW POWER TRANSISTOR	3
323	2N3251A	PNP LOW POWER TRANSISTOR	2
336	2N3810	COMPLEMENTARY PNP TRANSISTOR	3
336	2N3811	COMPLEMENTARY PNP TRANSISTOR	3
337	1N4153-1	SWITCHING DIODE	2
341	2N3375	NPN RF TRANSISTOR	N
341	2N3553	NPN RF TRANSISTOR	N
343	2N2857	NPN RF TRANSISTOR	2
347	2N3253	NPN HIGH POWER TRANSISTOR	3
348	2N3468	PNP LOW POWER TRANSISTOR	N
349	2N3507	NPN LOW POWER TRANSISTOR	N
350	2N3868	PNP LOW POWER TRANSISTOR	N
355	2N2920	DIFFERENTIAL AMPLIFIER-NPN	3
356	1N4955	VOLTAGE REGULATOR DIODE	N
356	1N4954	VOLTAGE REGULATOR DIODE	N
356	1N4956	VOLTAGE REGULATOR DIODE	N
356	1N4957	VOLTAGE REGULATOR DIODE	N
356	1N4958	VOLTAGE REGULATOR DIODE	N
356	1N4960	VOLTAGE REGULATOR DIODE	N
356	1N4962	VOLTAGE REGULATOR DIODE	N
356	1N4964	VOLTAGE REGULATOR DIODE	N
356	1N4967	VOLTAGE REGULATOR DIODE	N
356	1N4969	VOLTAGE REGULATOR DIODE	N
356	1N4971	VOLTAGE REGULATOR DIODE	N
356	1N4972	VOLTAGE REGULATOR DIODE	N
356	1N4974	VOLTAGE REGULATOR DIODE	N
356	1N4976	VOLTAGE REGULATOR DIODE	N
356	1N4979	VOLTAGE REGULATOR DIODE	N
357	2N3635	PNP LOW POWER TRANSISTOR	3
357	2N3636	PNP LOW POWER TRANSISTOR	N
357	2N3637	PNP LOW POWER TRANSISTOR	3
358	1N3323B	VOLTAGE REGULATOR DIODE	N
359	1N4942	FAST RECOVERY RECTIFIER	N
359	1N4944	FAST RECOVERY RECTIFIER	N
359	1N4946	FAST RECOVERY RECTIFIER	N
359	1N4948	FAST RECOVERY RECTIFIER	N
365	1N4385	POWER RECTIFIER	N
366	2N3498	NPN LOW POWER TRANSISTOR	3
366	2N3500	NPN LOW POWER TRANSISTOR	3
366	2N3501	NPN LOW POWER TRANSISTOR	3
368	2N3439	NPN LOW POWER TRANSISTOR	3
368	2N3440	NPN LOW POWER TRANSISTOR	3
371	2N3902	NPN HIGH POWER TRANSISTOR	N
371	2N5157	NPN HIGH POWER TRANSISTOR	N
374	2N3997	NPN HIGH POWER TRANSISTOR	2-3
375	2N3821	MOSFET (IGFET) N-CHANNEL	2-3
375	2N3822	MOSFET (IGFET) N-CHANNEL	3
375	2N3823	MOSFET (IGFET) N-CHANNEL	2
376	2N2484	NPN LOW POWER TRANSISTOR	3
379	2N3791	PNP HIGH POWER TRANSISTOR	N
382	2N2946A	PNP CHOPPER TRANSISTOR	3
383	1N5139A	VARIABLE CAPACITANCE DIODE (VARACTOR)	2
383	1N5140A	VARIABLE CAPACITANCE DIODE (VARACTOR)	3
383	1N5144A	VARIABLE CAPACITANCE DIODE (VARACTOR)	3
383	1N5148A	VARIABLE CAPACITANCE DIODE (VARACTOR)	N
384	2N3584	NPN HIGH POWER TRANSISTOR	N
384	2N3585	NPN HIGH POWER TRANSISTOR	N
385	2N4856	MOSFET (IGFET) N-CHANNEL	3
385	2N4858	MOSFET (IGFET) N-CHANNEL	3

MIL-S-19500	BASE PART NUMBER	DEVICE DESCRIPTION	CLASS
388	2N4948	UNIJUNCTION TRANSISTOR	2
391	2N3019	NPN LOW POWER TRANSISTOR	3
391	2N3700	NPN LOW POWER TRANSISTOR	3-N
392	2N3486A	PNP LOW POWER TRANSISTOR	3
394	2N4150	NPN LOW POWER TRANSISTOR	2
395	2N3735	NPN LOW POWER TRANSISTOR	3
395	2N3737	NPN LOW POWER TRANSISTOR	3
396	2N3763	PNP LOW POWER TRANSISTOR	3
396	2N3765	PNP LOW POWER TRANSISTOR	3
397	2N4931	PNP LOW POWER TRANSISTOR	3
398	2N3866	NPN RF TRANSISTOR	N
398	2N3866A	NPN RF TRANSISTOR	3
399	2N3960	NPN LOW POWER TRANSISTOR	2
402	2N3739	NPN HIGH POWER TRANSISTOR	N
406	1N4465	VOLTAGE REGULATOR DIODE	N
406	1N4467	VOLTAGE REGULATOR DIODE	N
406	1N4469	VOLTAGE REGULATOR DIODE	N
406	1N4471	VOLTAGE REGULATOR DIODE	N
406	1N4474	VOLTAGE REGULATOR DIODE	N
406	1N4476	VOLTAGE REGULATOR DIODE	N
407	2N3055	NPN HIGH POWER TRANSISTOR	N
408	2N3715	NPN HIGH POWER TRANSISTOR	N
408	2N3716	NPN HIGH POWER TRANSISTOR	N
411	1N5416	FAST RECOVERY RECTIFIER	N
411	1N5417	FAST RECOVERY RECTIFIER	3
411	1N5418	FAST RECOVERY RECTIFIER	N
411	1N5420	FAST RECOVERY RECTIFIER	3
413	2N3772	NPN HIGH POWER TRANSISTOR	N
414	2N5241	NPN HIGH POWER TRANSISTOR	3
419	2N3030	TRIODE, POWER, REVERSE BLOCKING (SCR)	3
420	1N5550	POWER RECTIFIER	N
420	1N5552	POWER RECTIFIER	3
420	1N5554	POWER RECTIFIER	N
424	1N5187	FAST RECOVERY RECTIFIER	N
424	1N5188	FAST RECOVERY RECTIFIER	N
424	1N5190	FAST RECOVERY RECTIFIER	N
426	2N4957	PNP LOW POWER TRANSISTOR	2
427	1N5614	POWER RECTIFIER	N
427	1N5616	POWER RECTIFIER	3
427	1N5618	POWER RECTIFIER	N
427	1N5622	POWER RECTIFIER	3-N
428	2N4416A	MOSFET (IGFET) N-CHANNEL	3
429	1N5615	FAST RECOVERY RECTIFIER	3
429	1N5617	FAST RECOVERY RECTIFIER	N
429	1N5619	FAST RECOVERY RECTIFIER	N
429	1N5623	FAST RECOVERY RECTIFIER	N
433	2N5745	PNP HIGH POWER TRANSISTOR	N
434	1N5555	TRANSIENT SUPPRESSOR DIODE	N
434	1N5556	TRANSIENT SUPPRESSOR DIODE	N
434	1N5558	TRANSIENT SUPPRESSOR DIODE	N
435	1N4099	VOLTAGE REGULATOR DIODE	3
435	1N4100	VOLTAGE REGULATOR DIODE	3
435	1N4101	VOLTAGE REGULATOR DIODE	3
435	1N4103	VOLTAGE REGULATOR DIODE	3
435	1N4112	VOLTAGE REGULATOR DIODE	3
435	1N4114	VOLTAGE REGULATOR DIODE	3
435	1N4116	VOLTAGE REGULATOR DIODE	3
435	1N4120	VOLTAGE REGULATOR DIODE	3
435	1N4121	VOLTAGE REGULATOR DIODE	3
435	1N4123	VOLTAGE REGULATOR DIODE	3
435	1N4124	VOLTAGE REGULATOR DIODE	3
435	1N4125	VOLTAGE REGULATOR DIODE	3
435	1N4126	VOLTAGE REGULATOR DIODE	3
435	1N4127	VOLTAGE REGULATOR DIODE	3
435	1N4129	VOLTAGE REGULATOR DIODE	3
435	1N4130	VOLTAGE REGULATOR DIODE	3
435	1N4131	VOLTAGE REGULATOR DIODE	3
435	1N4132	VOLTAGE REGULATOR DIODE	3
435	1N4134	VOLTAGE REGULATOR DIODE	3
435	1N4614	VOLTAGE REGULATOR DIODE	N
435	1N4624	VOLTAGE REGULATOR DIODE	N
435	1N4625	VOLTAGE REGULATOR DIODE	N
435	1N4626	VOLTAGE REGULATOR DIODE	N

MIL-S-19500	BASE PART NUMBER	DEVICE DESCRIPTION	CLASS
435	1N4627	VOLTAGE REGULATOR DIODE	N
436	1N5463B	VARIABLE CAPACITANCE DIODE (VARACTOR)	3
436	1N5467B	VARIABLE CAPACITANCE DIODE (VARACTOR)	3
436	1N5476B	VARIABLE CAPACITANCE DIODE (VARACTOR)	N
437	1N5523B	VARIABLE CAPACITANCE DIODE (VARACTOR)	3
439	2N5038	VOLTAGE REGULATOR DIODE	N
441	2N3741	NPN HIGH POWER TRANSISTOR	N
444	1N5711	PNP HIGH POWER TRANSISTOR	1
445	1N5712	SCHOTTKY BARRIER (HOT CARRIER) DIODE	1-2
448	2N4405	SWITCHING DIODE	3
453	2N5109	PNP LOW POWER TRANSISTOR	3
454	2N5663	NPN RF TRANSISTOR	N
456	2N5302	NPN HIGH POWER TRANSISTOR	N
461	2N6212	NPN HIGH POWER TRANSISTOR	3-N
463	1N5287	PNP HIGH POWER TRANSISTOR	N
463	1N5285	CURRENT REGULATOR DIODE	1-2
463	1N5291	CURRENT REGULATOR DIODE	N
476	2N5114	CURRENT REGULATOR DIODE	3
485	2N5415	JFET P-CHANNEL	N
485	2N5416	PNP LOW POWER TRANSISTOR	3
501	2N6052	PNP LOW POWER TRANSISTOR	N
502	2N6059	PNP DARLINGTON TRANSISTOR	N
512	2N4033	NPN DARLINGTON TRANSISTOR	3-N
544	2N5154	PNP LOW POWER TRANSISTOR	N
552	1N6471	NPN LOW POWER TRANSISTOR	N
		TRANSIENT SUPPRESSOR DIODE	

SECTION 4

Data Sources

SECTION 4

DATA SOURCES

The following section contains brief descriptions of the various data sources. They are presented in order of the source code which is found in field No. 3 in the detailed data of Section 2. Note that there may be a series of source codes associated with one data source if different test methods were used in that source.

- 001 Three Fairchild 2102LI ICs were tested using the standard human body model. The voltage was applied to each input with the positive voltage on the input and the minus on V_{SS} or V_{DD} . Pulsing started at 200 volts and incremented in 100-volt steps until failure. Three pulses were given at each voltage. Out of a total of 39 inputs tested, 7 were damaged at 300 volts, 22 at 400 volts, 9 at 500 volts and 1 at 600 volts.

- 002 Type 6514 Static RAMS from RCA and Monolithic Memories were the devices tested. The inputs were step-stressed until failure in both polarities. A positive potential at the input was found to be the more destructive condition.

- 003 Devices of various technologies were stressed using a 100 pF and 0 ohm model. The inputs were step-stressed with one supply lead grounded. The voltage was increased in 100-volt steps until failure.

- 004 MOS, STTL, and TTL devices were stressed using 125 pF capacitor and 0 resistance. The inputs were stressed with no

004 (Cont'd)

other pins grounded (i.e., floating device model). In this situation, it is the capacitance of the device itself which allows energy to be dissipated causing device damage (see discussion on floating device model in Testing Techniques and Models, Section 1).

005 A sampling of multiplying digital to analog converters from 6 different manufacturers were tested. Step-stress comparative testing was done using the standard human body model. A change in any electrical parameter of 10% or more was considered a failure. The following devices were tested:

Analog Devices	AD 7533
Micro Power Systems	AD 7520
Analog Devices	AD 7520
Intersil	AD 7520
Hybrid Systems	DAC 331
Raytheon	AD 7521
National	AD 7521

006 Various CMOS devices were tested using the standard human body model. A sample of four devices were step-stressed on a different pin combination for every voltage. The pin combinations used were:

<u>(+)</u>	<u>(-)</u>
V _{DD}	Input
Input	V _{SS}
Input	Associated Output
Associated Output	Input

006 (Cont'd)

The voltage stepping increments were 200 volts starting at 400 volts. An out-of-spec current leakage was used as the failure criterion.

007-013 Various CMOS devices from two different manufacturers were tested in accordance with the applicable MIL-M-38510 slash sheet. This requires the device to withstand a stressing voltage of 400 volts. To obtain comparative data on the devices, a sample of 5 devices were also tested at 200, 400, and 600 volts with each device subjected to only one voltage.

014-025 (Published paper, Ref. 10)

Various technologies (CMOS, TTL, STTL, LSTTL, ECL, transistors, diodes) were tested to determine the relative failure voltages. Each technology was tested using the human body model with various resistances and capacitances (100 to 10K ohm and 100 to 500 pF, respectively). Specific part numbers are not known.

026 These tests were performed with an "in-house"-built VZAP tester utilizing a 200 pF capacitor and a 100 ohm resistor. Average failure voltages for a sampling of 4 devices was given using step-stressing.

027 Tests were conducted on various bipolar devices both digital and linear using an Electro-tech Systems 900 ESD tester (100 pF, 1500 ohm). A sample of 15 of each device type was tested

027 (Cont'd)

at 1000 volts. The failure criterion was an out-of-spec DC parameter.

028 (Published paper, Ref. 8)

Various semiconductor devices were step-stressed with a circuit similar to the MIL-M-38510 slash sheet spec (117 pF, 1500 ohm). Step voltages of 250, 500, 1000, 1500 and 2500 volts were used with 30 pulses applied at each voltage. A DC parameter change of 10% or more was used as the failure criterion. Devices were also stressed at 75% of the threshold and then burned in to detect possible ESD-induced latent failures (the 75% pulsing data is not included in the detailed data section of this book).

029 (Published report, Ref. 11)

The data in the detailed data section under the 029 source code was theoretically derived from data contained in the SUPERSAP2 database, which contains parametric data on many electronic devices including diodes, transistors, and microcircuits. The parameters are derived theoretically and empirically from EMP test data.

030 This document contains worst-case failure voltages for many different microcircuits, diodes and transistors referenced to the 100 pF, 1500 ohm human body model. Details of the test procedure were not known.

031-047 This document contains a study to evaluate various NMOS and CMOS devices from various manufacturers for their ESD susceptibility. Various resistances and capacitances were used in the discharge circuit. Devices which were step-stressed (source codes 042-045) were stepped from 400 volts in 100-volt increments. Multiple pulsing was also carried out. For devices that were step-stressed (source code 045) four pulses were applied at each voltage. Multiple pulsing was also carried out at discrete voltages of 1000 volts (source code 046) or 500 volts (source code 047) until failure occurred. One input of the devices was stressed to V_{SS} , V_{pp} or V_{DD} in both polarities.

048 (Published paper, Ref. 15)

In this paper, several bipolar transistors, diodes, and JFETs were stressed with a 218 pF, 100 ohm discharge model. All devices were step-stressed with the stressing voltage increasing by 20% with every pulse. The starting voltage for MOS devices was 16 volts and for all others 70 volts. The maximum stressing voltage was 3000 volts.

049-060 ESD susceptibility testing was conducted on various transistors and ICs. Comparative data is given on the 741 op amp from three different manufacturers. Two advanced Schottky parts were also tested (the 74F00 and 74F04). For devices which were step-stressed the source code and associated step levels are as follows:

051	4000, 10000
052	50, 100, 200, 300, 400, 500, 600
053	500, 1000, 1500
054	1000, 2000

061-066 Tests were carried out on the following NMOS 16K dynamic RAMs:

TI	4116
NEC	416
Mostek	4116
Intel	(Part number not reported)

The source codes and associated voltage step levels for devices which were step-stressed are as follows:

061	500, 1000
063	200, 400, 600, 800, 1000

Two different resistances were used and multiple pulse testing was conducted.

067-070 This document presents data on an STTL device (74S00) and a TTL device (7437). The voltages given are those required to cause 30% of the devices to fail. The inputs of the devices were tested using four different capacitances and no resistance. Findings indicate that, on the average, the energy required to cause failure in the Schottky device is 25% that of the standard TTL device.

071-073 Resistance networks were tested for resistance change after stressing a sample of devices at either 170, 2000 or 15,000 volts using the standard human body model. A change in resistance of 2% was used as the failure criterion. Various resistance values were stressed with up to 10 pulses or until failure.

074-086 RNC 50 type 0.1% resistors in various resistance values were tested for their ESD susceptibility. Devices were stressed with a 200 pF, 1000 ohm human body model (except for devices with source code 074 and 083 which used no resistance in the test circuit). For devices which were step-stressed, the source code and associated stressing voltages are as follows:

074	50, 100, 200
075	300, 400, 500, 600, 700, 800, 900, 1000
076	1000, 1500, 2000
077	500, 800, 1000, 1200, 1500, 2000, 2500
078	500, 1000
079	500, 1000, 1500, 2000
080	500, 1000, 1500
081	2000, 3000, 4000, 5000
083	500, 1000, 1500, 2000, 2500, 3000
084	500, 1000, 1500, 2000, 2500, 3000, 3500, 4000
085	100, 200, 325, 400, 500, 1100
086	1000, 1500, 2000, 2500, 3000, 4000, 4500, 5000, 6000, 8000, 10000, 15000

A change in resistance of 0.1% was used as the failure criterion.

087-126 (Published paper, Ref. 4)

This report documents an extensive study by Hewlett Packard of the effects of ESD on various CMOS devices and investigates the possibility of ESD-induced latent failures. The data associated with these source codes were obtained primarily from Weibull plots, i.e., the voltages which would cause 10%,

087-126 (Cont'd)

50% and 90% of the devices to fail are given as cumulative failures. Since the sample size was known (25 for each device), the approximate number failing at each specified voltage can be calculated via the following formula:

$$\frac{i - .3}{N + .4} = \% \text{ failed } (+100)$$

where

i = number failed

N = sample size

Therefore, at the 10% voltage approximately 3 devices failed, at 50% 10 more devices, and at 90% 10 more, with approximately 2 devices passing the test at the 90% voltage.

Multiple pulsing was also carried out at a single test voltage (indicated by a GN under test type) on the Motorola 14049. The voltages chosen were 700, 900, 1100, 4500, 6000 and 7000, and the number of pulses were incremented until device failure (source codes 098-103).

127

Three LSTTL devices (74LS09, 74LS175 and 74LS240) from various manufacturers were tested for their ESD susceptibility. The inputs were step-stressed in 200-volt increments starting at 400 volts with one pulse at each voltage. The procedure was repeated with 10 pulses at each voltage on another sampling of devices. It was noted that 90% of the failures exhibited input diode short circuits.

128 Two low-power Schottky devices (the 54LS151 from two different manufacturers and the 54LS153) and one Schottky TTL device (54S157) were tested. All inputs on all devices were step-stressed to failure with five pulses at each voltage. The voltage increments were 100 volts starting at 400 volts. The failure voltage specified is an average of all inputs of that device (with the most susceptible given in the Remarks section).

129-139 Various MOS microprocessors were tested, the Mostek 3870 and 4116, the NEC D416C, and the Hitachi 4716AP. For the Mostek 3870, a sample of 5 devices were tested at 1000 and 2000 volts and 4 devices were tested at 3500V. For the other parts tested, a sample of 5 were tested at 500, 700, 800, 1000, and 1500 volts until all 5 parts failed.

140 A sample of 40 MK3873s was tested at 300 volts with up to 3 pulses, and the survivor (only 1) was tested at 1000 volts.

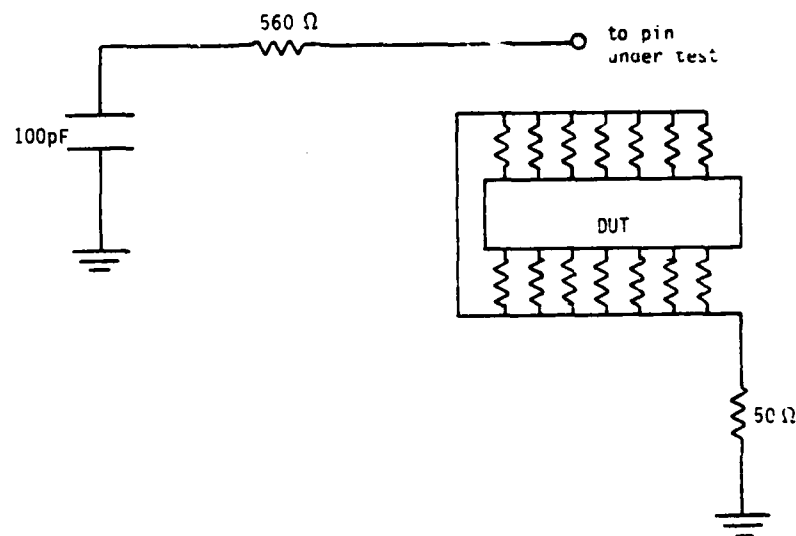
141-155 (Published paper, Ref. 17)

This extensive study evaluates the input protection on CMOS devices using various resistances and capacitances on the 4001A (source codes 143-154).

Also, the 4011 from four different manufacturers was step-stressed on twelve different pin combinations. The failure voltage is given for each manufacturer and each pin combination.

156-164 (Published paper, Ref. 18)

Testing was performed on various CMOS devices, the 4021A, 4021B, 4081B, 4011A and 4013A. To closer approximate typical resistances seen by the device under test in actual circuit operation, the tests were carried out with a resistance (20K to 5M ohms) to ground. The schematic for the discharge circuit was as follows:



The pin under test was connected directly to the 560-ohm resistor. The supply pins were connected directly to the 50-ohm resistor to ground.

For each pin and polarity of the 4021A, two devices were stressed at 500, 1000, and 1500 volts (source codes 156-159).

After pulsing, the 4021A devices were put on life test at 150°C for 308 hours. Subsequent step-stress testing was performed up to 5500 volts (4021A data with source code 160).

The 4021B was step-stressed to 4000 volts to compare with the 4021A data.

The 4081B was step-stressed to 4500 volts and the 4011A and 4013A were stepped to 4000 volts.

165 Several CMOS ICs were subjected to ESD pulses and latch-up tests. The devices were stressed at 400 volts (in accordance with the MIL-M-38510 slash sheet specification) in the following sequence:

Input (-)	VDD (+)
Input (+)	VSS (-)
Input (+)	Output (-)
Input (-)	Output (+)

166-169 A 40-pin LSI PMOS device was subjected to discharges of 4000, 7000 and 10,000 volts using the standard human body model. The device was stressed in the following four pulse sequence:

Inputs (-)	VDD (+)
Inputs (+)	VSS (-)
Inputs (+)	Outputs (-)
Inputs (-)	Outputs (+)

The device had previously passed testing to 3000 volts.

170-230 (Published paper, Ref. 26)

This report documents extensive testing on the 74F04 and the

170-230 (Cont'd)

74F175 advanced Schottky TTL devices. The testing was done in three basic parts:

- (1) Classification testing in accordance with DOD-STD-1686, Appendix B
- (2) Step-stress testing
- (3) Multiple pulse testing

All parts of these tests were performed with the standard human body model (100 pF, 1500 ohm) and carried out by three independent test labs.

The step-stress testing was carried out in 100-volt increments from 100 to 1000 volts and 400-volt increments from 1000 to 5000 volts. One device was step-stressed on one pin (by each test lab) with all other pins tied together (APTT). This test was done in two conditions: (1) with all pins tied together grounded and (2) with all pins tied together floating (this condition is noted as such in Remarks). See Section 1 for a discussion on floating device model.

Multiple pulse testing was also done in the two conditions mentioned above where a device was stressed at only one voltage by applying numerous pulses until failure. The devices were checked after 10, 30, 100, and 300 pulses.

231

A custom LSI phone converter IC was tested for its ESD susceptibility. The inputs of the device were tested by bringing a probe 1.5 feet long up to the pin for discharge. No resistance was used in the circuit.

232 (Published paper, Ref. 34)

This document contains the damage constant (K_1) and breakdown voltage V_D for many diodes and transistors. The Wunsch model was used ($P = Kt^{-.5}$) and the failure voltage calculated as in source code 029. A bulk resistance of 30 ohm was assumed for the calculations.

233 (see source codes 156-164)

234-243 (Published paper, Ref. 19)

TTL devices 74H106, 74163, 74LS163, and 74173 were tested for their ESD susceptibility. The inputs of the devices were step-stressed with various capacitances (and no series resistance). The stepping increments were 100 volts starting at 100 volts. The charged capacitor was touched to the input of the device so that an arc discharge occurred. A curve tracer was used to detect failure.

244-245 (Published report, Ref. 20)

This document contains two kinds of test data: (1) ESD susceptibility using a 100 pF, 1500 ohm model (source code 244), and (2) system transient data using a 0.1 uF, 100 ohm model (source code 245).

For the system transient data, the failure voltage given is an average of fifteen devices.

244-245 (Cont'd)

For the ESD susceptibility data, the devices were step-stressed to a maximum of 1000 volts. For the system transient data, the devices were step-stressed to a maximum of 300 volts.

246-379 (Published paper, Ref. 13)

This report documents an extensive program undertaken by Westinghouse to study ESD-induced latent failures of various types of semiconductor devices. The study was conducted in two parts: (1) Latent Failure Study I, which studied the 2N4416, 3N170, 1N5711, CD4001A, 5404 and the 54S04, and (2) Latent Failure Study II, which studied in more detail the 3N128 and the 54L04. Both studies provided very detailed ESD susceptibility data on the parts, giving both single pulse and multiple pulse data. All testing was done with the standard human body model (100 pF, 1500 ohm).

380-382 (Published paper, Ref. 21)

This paper documents a study in which 16K NMOS EPROMs manufactured in both the United States and Japan were tested for their ESD susceptibility to various discharge models. Two human body models were used, the 100 pF, 1500 ohm model and a 200 pF, 0 ohm model. For each of the human body models used, a separate device from each vendor was step-stressed from 200 to 3000 volts in twelve steps. 10, 5, and 1 pulses were applied to each pin in both polarities.

380-382 (Cont'd)

Also, testing was done on the parts using the charged device model (see Section 1 for a discussion of the charged device model). The devices tested using this model are noted in the Remarks section. The generic part numbers of these devices were not reported.

383 (Published paper, Ref. 22)

Various ICs of several technologies were tested using a square wave step-stress test (EMP test) at pulse widths of 100 ns, 1 us, and 10 us. From these tests, the damage constants K_1 and K_2 and the breakdown voltage V_D and bulk resistance R_B were calculated. Knowing these parameters, a theoretical ESD failure voltage was calculated (see Section 1, Data Conversion Methods, for the algorithm).

384-385 (Published paper, Ref. 35)

Various ICs of several technologies (LSTTL, TTL, STTL, CMOS (B series), CMOS LSI, NMOS) were step-stressed using a 200 pF, 1000 ohm human body model. Steps were in increments of 100 volts from 100 to 5500 volts until failure. One pulse per pin was applied at each voltage.

386 (Published report, Ref. 23)

Various LEDs were tested with various pulse widths ranging from a few hundred nanoseconds to 100 us. The damage constants were calculated and converted to an ESD level (via the

386 (Cont'd)

algorithm given in Section 1). A degraded light output was observed to be the most sensitive parameter and was used as the failure criterion along with a change in the I-V characteristics. This study was based on work outlined in Ref. 24.

SECTION 5

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APPENDIX A

Derivation of Data Conversion Formulae

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DERIVATION OF DATA CONVERSION FORMULAE

The derivation of two data conversion methodologies are presented here:

Part I Conversion of failure voltages using a nonstandard human body model to a theoretical failure voltage consistent with the standard model (100 pF, 1500 ohm).

This is only used for calculating a failure voltage consistent with the 100 pF, 1500 ohm model so that a classification could be arrived at in accordance with DOD-STD-1686 and DOD-HDBK-263.

Part II Conversion of empirical EMP overstress data to a theoretical ESD failure voltage.

Part I: Derivation of Nonstandard Human Body Model Test Data Conversion Formula

Since there is much data on parts using a discharge model other than the standard 100 pF, 1500 ohm, there must be a method to convert the failure voltage to a level consistent with the 100 pF, 1500 ohm model for classification purposes. One way this can be accomplished is via a method similar to the EMP-to-ESD conversion method. However, for this method to work, one must know certain parameters of the device, namely the bulk resistance and breakdown voltage. Unfortunately, these parameters are seldom available, especially given the fact that for ICs the failure site is often not known.

A more direct conversion technique was therefore needed which could be used to convert data without knowing these parameters of the device. Since the failure voltage of a device (the voltage on the capacitor) is proportional to the series resistance in the stressing circuits and

inversely proportional to the capacitance in the circuit, the failure voltage, resistance, and capacitance can be approximately related as follows:

$$V = A \sqrt{\frac{R}{C}}$$

Here A is a constant dependent on the device parameters. Therefore, the ratio of failure voltages for two different RC models is in the general form:

$$\frac{V_1}{V_2} = \frac{A \sqrt{\frac{R_1}{C_1}}}{A \sqrt{\frac{R_2}{C_2}}} = \sqrt{\frac{R_1 C_2}{C_1 R_2}}$$

where:

- V_2 = observed failure voltage using C_2 and R_2
- C_2 = capacitance used in nonstandard model (in pF)
- R_2 = resistance used in nonstandard model
- V_1 = converted failure voltage
- C_1 = capacitance of model failure voltage is to be converted to (in pF)
- R_1 = resistance of model failure voltage is to be converted to

Therefore, when using 100 pF and 1500 ohm for C_1 and R_1 respectively, the following conversion equation is obtained:

$$V_1 = V_2 (3.87) \sqrt{\frac{C_2}{R_2}}$$

The relationship of V, C, and R was obtained through empirical methods (regression analysis) by reviewing data in which a device was

tested with different R C models and threshold voltages were obtained for each model (Ref. 10, 14, 16, 17, 19, 25).

It must also be stressed that this relationship of V, C and R indicates an energy-dependent failure mechanism. This may not be an adequate assumption, especially for MOS devices where the failure mechanism may be voltage-dependent by nature (i.e., dielectric breakdown) but the actual failure mechanism is not known. For example, if a MOS device was tested with a capacitance greater than 100 pF and/or resistance lower than 1500 ohms the failure voltage obtained with the nonstandard values of R and C may give a good indication of the lower bound of the failure voltage; that is, the failure voltage may be greater than or equal to the observed failure rate if the standard human body model was used.

This method is necessarily approximate and was used in the classification of devices only if data using the standard human body model was not available.

Part II: Derivation of EMP-to-ESD Conversion Formula

By knowing certain parameters of a device, a theoretical ESD failure voltage can be calculated. The parameters needed for conversion of EMP overstress failure to a theoretical ESD failure voltage are:

- R_0 = Bulk resistance of the device
- V_D = Breakdown voltage of device
- K_1 = Failure constant 1
- K_2 = Failure constant 2

The basic equation used for this conversion is:

$$PAV = K_1 t^{-K_2}$$

where:

P_{AV} = average power required for failure

t = pulse width

$i = I$ (time dependent current)

$p = V_D i + R_B i^2$ (time dependent power)

$$p = V_D I_P e^{-\frac{t}{\tau}} + R_B I_P^2 e^{-\frac{2t}{\tau}}$$

Integrating and averaging the power over 5 time constants yields:

$$\begin{aligned} P_{AV} &= \frac{1}{5\tau} \int_0^{5\tau} V_D I_P e^{-\frac{t}{\tau}} dt + \frac{1}{5\tau} \int_0^{5\tau} R_B I_P^2 e^{-\frac{2t}{\tau}} dt \\ &= \frac{V_D I_P}{5} (1 - e^{-5}) + \frac{R_B I_P^2}{10} (1 - e^{-10}) \\ &\quad (e^{-5} \text{ and } e^{-10} \ll 1) \end{aligned}$$

therefore:

$$P_{AV} = \frac{V_D I_P}{5} + \frac{R_B I_P^2}{10}$$

$$K_1 t^{-K_2} = \frac{V_D I_P}{5} + \frac{R_B I_P^2}{10}$$

Using the quadratic equation solution to solve for I_P :

$$I_P = \frac{-2V_D + \sqrt{4V_D^2 + 40R_B(K_1 t^{-K_2})}}{2R_B}$$

$$I_P = \frac{V - V_D}{R + R_B}$$

$$V = I_P (R + R_B) + V_D$$

(general equation for I_P)

(V = voltage on capacitor)

(R = source resistance of model)

Assuming $t = 5\tau = 5RC = 7.675 \times 10^{-7}$ for conversion to voltage level consistent with a 100 pF, 1500 ohm model and a nominal value of 30 ohms for R_g yields:

$$V = \left[\frac{-2V_D + \sqrt{4V_D^2 + 1200 K_1 (7.675 \times 10^{-7})^{-K_2}}}{60} \right] 1530 + V_D$$

APPENDIX B

MIL-M-38510 Detail Specifications
Minimum VZAP Requirements

MIL-M-38510 Detail Specifications Minimum Specified VZAP Requirements

The following listing is a tabulation of MOS devices for which a minimum VZAP voltage level exists on their associated MIL-M-38510 slash sheets. The generic part number, associated MIL-M-38510 number, and VZAP requirement are given in the following order of device type:

- Digital - CMOS
- Analog Switch - CMOS
- Analog Multiplexer/Demultiplexer - CMOS
- Multiplying D/A Converter - CMOS
- RAM - Digital, NMOS, Static, 4K
- RAM - Digital, NMOS, Dynamic, 4K
- RAM - Digital, NMOS, Dynamic, 16K
- RAM - Digital, NMOS, Dynamic, 64K
- RAM - Digital, CMOS, Static, 4K
- RAM - Digital, CMOS, Static 1K
- EPROM - Digital, CMOS, 4K
- EPROM - Digital, NMOS, 8K
- EPROM - Digital, NMOS, 16K
- EPROM - Digital, NMOS, 32K
- Microprocessor - NMOS
- Microprocessor Support Chips - NMOS
- Microprocessor - CMOS
- Microprocessor Support Chips - CMOS

Unless otherwise specified, all voltage requirements are referenced to the 100 pF, 1500 ohm human body model.

MIL-M-38510 Minimum Specified VZAP Requirement

	MIL-M-38510/	Minimum Specified VZAP
Digital - CMOS		
4000A	05201	400V
4000B	05251	400V
4001A	05202	400V
4001B	05252	400V
4002A	05203	400V
4002B	05253	400V
4006A	05701	400V
4006B	05751	400V
4007A	05301	400V
4008A	05401	400V
4008B	05451	400V
4009A	05501	400V
4010A	05502	400V
4011A	05001	400V
4011B	05051	400V
4012A	05002	400V
4012B	05052	400V
4013A	05101	400V
4013B	05151	400V
4014A	05702	400V
4014B	05752	400V
4015A	05703	400V
4015B	05753	400V
4016A	05801	400V
4016B	05851	400V
4017A	05601	400V

MIL-M-38510 Minimum Specified VZAP Requirement (Cont'd)

	MIL-M-38510/	Minimum Specified VZAP
Digital - CMOS		
4018A	05602	400V
4019A	05302	400V
4020A	05603	400V
4021A	05704	400V
4021B	05754	400V
4022A	05604	400V
4023A	05003	400V
4023B	05053	400V
4024A	05605	400V
4025A	05204	400V
4025B	05254	400V
4027A	05102	400V
4027B	05152	400V
4028A	05901	400V
4028B	05951	400V
4030A	05303	400V
4031A	05705	400V
4031B	05755	400V
4034A	05706	400V
4034B	05756	400V
4041A	05505	400V
4043A	05103	400V
4043B	05153	400V
4048A	05304	400V
4049A	05503	400V
4050A	05504	400V

MIL-M-38510 Minimum Specified VZAP Requirement (Cont'd)

	MIL-M-38510/	Minimum Specified VZAP
Digital - CMOS		
4066A	05802	400V
4066B	05852	400V
4067B	17801	400V
4069UB	17401	400V
4070B	17203	400V
4071B	17101	400V
4072B	17102	400V
4073B	17003	400V
4075B	17103	400V
4076B	17501	400V
4077B	17204	400V
4081B	17001	400V
4082B	17002	400V
4085B	17201	400V
4086B	17202	400V
4093B	17701	400V
4095B	17502	400V
4096B	17503	400V
4097B	17802	400V
4098B	17504	400V
4099B	17601	400V
40106B	17702	400V
40107B	17402	400V
40109B	17404	400V
40160B	18001	400V
40161B	18002	400V

MIL-M-38510 Minimum Specified VZAP Requirement (Cont'd)

	MIL-M-38510/	Minimum Specified VZAP
Digital - CMOS		
40162B	18003	400V
40163B	18004	400V
40174B	17505	400V
40257B	17803	400V
4502B	17403	400V
4508B	17602	400V
4514B	17301	400V
4515B	17302	400V
4532B	17303	400V
4555B	17304	400V
4556B	17305	400V
Analog Switch - CMOS		
DG300	11601	400V
DG301	11602	400V
DG302	11603	400V
DG303	11604	400V
DG304	11605	400V
DG305	11606	400V
DG306	11607	400V
DG307	11608	400V
200*	12301	400V
201*	12302	400V
200	12303	400V
201	12304	400V

*Diode clamped input

MIL-M-38510 Minimum Specified VZAP Requirement (Cont'd)

	MIL-M-38510/	Minimum Specified VZAP
Analog Multiplexers/Demultiplexers - CMOS		
506,6116	19001	400V
506A	19002	400V
507,6216	19003	400V
507A	19004	400V
508A	19005	400V
509A	19006	400V
508,6108	19007	400V
509, 6208	19008	400V
Multiplying D/A Converter - CMOS		
7523	12701	400V
7520	12702	400V
7521	12703	400V
7541	12704	400V
1020	12705	400V
1220	12706	400V
1218	12707	400V
RAM - Digital, NMOS, Static, 4K		
2147	23801	170V
2114	23802	170V
2147H	23803	170V
2114A	23804	170V

MIL-M-38510 Minimum Specified VZAP Requirement (Cont'd)

	MIL-M-38510/	Minimum Specified VZAP
RAM - Digital, NMOS, Static, 4K (Cont'd)		
2147H-3	28305	170V
2148H	23806	170V
2148H-2	23807	170V
RAM - Digital, NMOS, Dynamic, 4K		
MK84096	23602,23604	150V
6604A	23602,23604	150V
MCM6605	23601,23603	150V
RAM - Digital, NMOS, Dynamic, 16K		
2117	24001,24002	150V
4116	24001,24002	150V
RAM - Digital, NMOS, Dynamic, 64K		
MCM6665,4564	24401	150V
2164,8264		
NMC4164,F64K	24401	150V
MCM6665,4564,	24402	150V
2164,8264		
NMC4164,F64K	24402	150V

MIL-M-38510 Minimum Specified VZAP Requirement (Cont'd)

	MIL-M-38510/	Minimum Specified VZAP
RAM - Digital, CMOS, Static, 4K		
6504	24501	400V
6514	24502	400V
RAM - Digital, CMOS, Static, 1K		
6508	23901	400V
6518	23902	400V
54C929	23901	400V
54C930	23902	400V
EPROM - Digital, CMOS, 4K		
6654	21901	150V
EPROM - Digital, NMOS, 8K		
2708	22001	150V
EPROM - Digital, NMOS, 16K		
21716,2516	22101	150V
EPROM - Digital, NMOS, 32K		
2532	22201	150V

MIL-M-38510 Minimum Specified VZAP Requirement (Cont'd)

	MIL-M-38510/	Minimum Specified VZAP
Microprocessors, NMOS		<u>Remarks</u>
6800	40001	400V
8080A	42001	600V 50 pf 0 ohm
8048	49001	400V
8035L	49002	400V
Z8001	52001	400V
Z8002	52002	400V
Z8001A	52003	400V
Z8002A	52004	400V
8086	53001	400V
68000-6	54001	400V
68000-8	54002	400V
Microprocessor Support Chips, NMOS		
MC6821	40101	400V
6810	40201	170V
68A316E, S6831B, 9218, 3516E, 2316E, MK34000, 52116, 2616	40301	150V
Z80AS10, A80S10	48101	400V
Z80S10	48102	400V
Z80ADMA	48201	400V
Z80DMA	48202	400V
Z80ACTC, A80CTC	48301	400V
Z80AP10	48401	400V
Z80P10	48402	400V

MIL-M-38510 Minimum Specified VZAP Requirement (Cont'd)

	MIL-M-38510/	Minimum Specified VZAP
Microprocessors - CMOS		
1802D	47001	400V
Z80A	48001	400V
Z80	48002	400V
Z80B	48003	400V
Microprocessor Support Chips - CMOS		
1821	47101	400V
1822	47102	400V
1832	47201	400V
1852	47301	400V
1853	47401	400V
1856	47601	400V

APPENDIX C

Additional RAC Services

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ADDITIONAL RAC SERVICES

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Retrospective Searches are conducted at a flat fee of \$125 per search. If no references are identified, a \$50 service charge will be made in lieu of the above. For best results, please call or write for assistance in formulating your search question. An extra charge, based on engineering time and costs, will be made for evaluating, extracting or summarizing information from the cited references.

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()	MDR-15 Digital Evaluation and Generic Failure Analysis Data - Vols. I and II	Aug. 1980	60.00	70.00**
()	MDR-16 Linear/Interface Data Complete Set: \$310	Feb. 1981	60.00	70.00**
()	MDR-17 Digital Failure Rate Data (\$360 non-U.S.)	Aug. 1981	60.00	70.00**
()	MDR-18 Memory/LSI Data	Feb. 1982	60.00	70.00**
()	DSR-3 Transistor/Diode Data	Jan. 1980	60.00	70.00**
()	NPRD-2 Nonelectronic Parts Reliability Data	Aug. 1981	60.00	70.00*
()	VZAP-1 Electrostatic Discharge Susceptibility Data	Apr. 1983	95.00	105.00**

Equipment Databooks

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()	RDH-376 Reliability Design Handbook	Mar. 1976	36.00	46.00**
()	MFAT-1 Microelectronics Failure Analysis Techniques Procedural Guide	July 1981	125.00	135.00***

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